TECHNICAL DATA AND COMPOSITION OF VIDEO RECORDERS
CARACTERISTIQUES TECHNIQUES ET COMPOSITION DES MAGNETOSCOPES
TECHNISCHE DATEN UND ZUSAMMENSETZUNG VIDEORECORDERS
CARATTERISTICHE TECNICHE E COMPOSIZIONE VIDEOREGISTRATORI
CARACTERISTICAS TECNICAS Y COMPOSICIÓN DE LOS VÍDEOS

Power requirement: Alimentation: Netzeil: Alimentazione: Alimentación:	220 - 230 V ± 10% 50/60Hz	*4 Heads Helical Scan system: *4 têtes video: *4 Video-Köpfe: *4 Testine video *4 Cabezas video:		Consumption Consommation: Leitstungsaufnahme: Consumo: Consumo:	45 W < 6 W STD-BY
Programming: Programmation: Timer: Programmazione: Programación:	**SHOWVIEW**	2 Heads Helical Scan system: 2 têtes video: 2 Video-Köpfe: 2 Testine video 2 Cabezas video:		Sound: Son: Ton: Suono: Sonido:	Mono
Tape speed: Vitesse de défilement: Bandgeschwindigkeit: Velocitá del nastro: Velocidad de la cinta:	SP SP/LP °	Tape format: Format video: Video-system: Formato video: Formato vídeo:	VHS LP = 11,70 mm/sec.	Power save: Sécurité secteur: Gangreserve: Sicurezza alimentazione: Seguridad red:	30 min.

For service information on the deck mechanism see separate publication ” P8000 SERIES MECHANICAL ADJUSTMENTS ” and ” P8000 DRUM DISASSEMBLY / ASSEMBLY SERVICE MANUAL ”

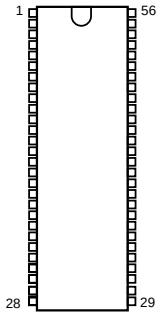
Pour toute intervention ou réglage sur la partie mécanique, se reporter au FASCICULE MECANIQUE P8000 ainsi qu’à son additif: ”DEMONTAGE DU TAMBOUR SUR LES MAGNETOSCOPES EQUIPES DU CHASSIS P8000 ”

Informationen über mechanische Einstellungen entnehmen Sie bitte dem Handbuch ”Mechanische Einstellungen P8000 ”

Ulteriori informazioni sulla meccanica si possono essere trovare nelle seguenti pubblicazioni: ”SERIE P8000 REGOLAZIONI MECCANICHE” e P8000 MANUALE DI SERVIZIO PER IL DISASSEMBLAGGIO E ASSEMBLAGGIO DEL TAMBURO”.

Para información de servicio técnico sobre la platina mecànica, consulte la documentación separada ”AJUSTES MECANICOS SERIES P8000” y ”MANUAL DE SERVICIO ENSAMBLAJE DEL TAMBOR P8000”.

INTEGRATED CIRCUITS AND TRANSISTORS OUTLINE - CIRCUITS INTEGRES ET TRANSISTORS INTEGRIERTE SCHALTUNGEN UND TRANSISTOREN - CIRCUITI INTEGRATI TRANSISTOR CIRCUITOS INTEGRADOS Y TRANSISTORES



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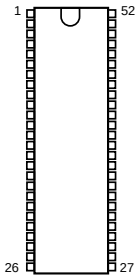

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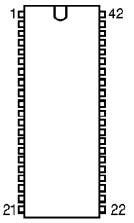

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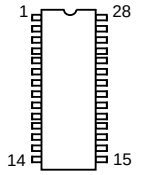

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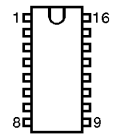

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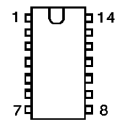

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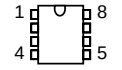

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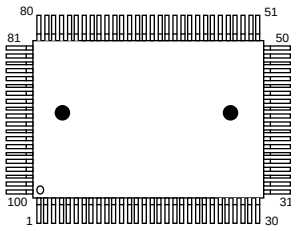

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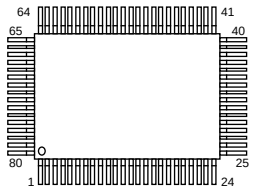

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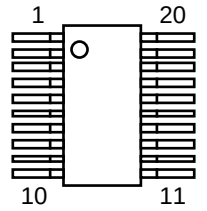

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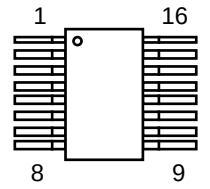

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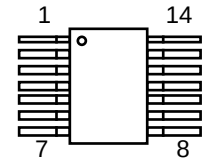

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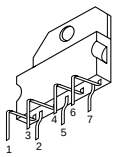

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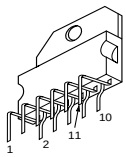

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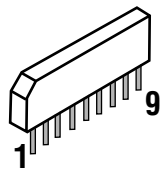

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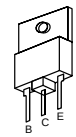

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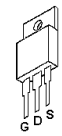

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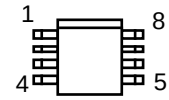

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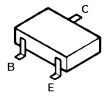

BC 847B
BC848B N
BC857
BC 858 B/C
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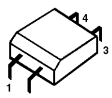
DTC144EK
DTC114EK
MMBTH10LT
2SC2712Y
2SA1162Y
RN1402 N
RN2402 P



P621

1 2 3
TL431/AC

BC 337
BC 547B/C
BC 548B
BC 558B

BF 422
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2SC2236

E B C
BC327-25

INTEGRATED CIRCUITS BLOCK DIAGRAMS -
SYNOPTIQUES INTERNES DES CIRCUITS INTEGRES -
INTEGRIERTE SCHALTUNGEN BLOCKSCHALTBILDER
SCHEMA A BLOCCHI DEI CIRCUITI INTEGRATI -
VISTA INTERNA DE LOS CIRCUITOS INTEGRADOS

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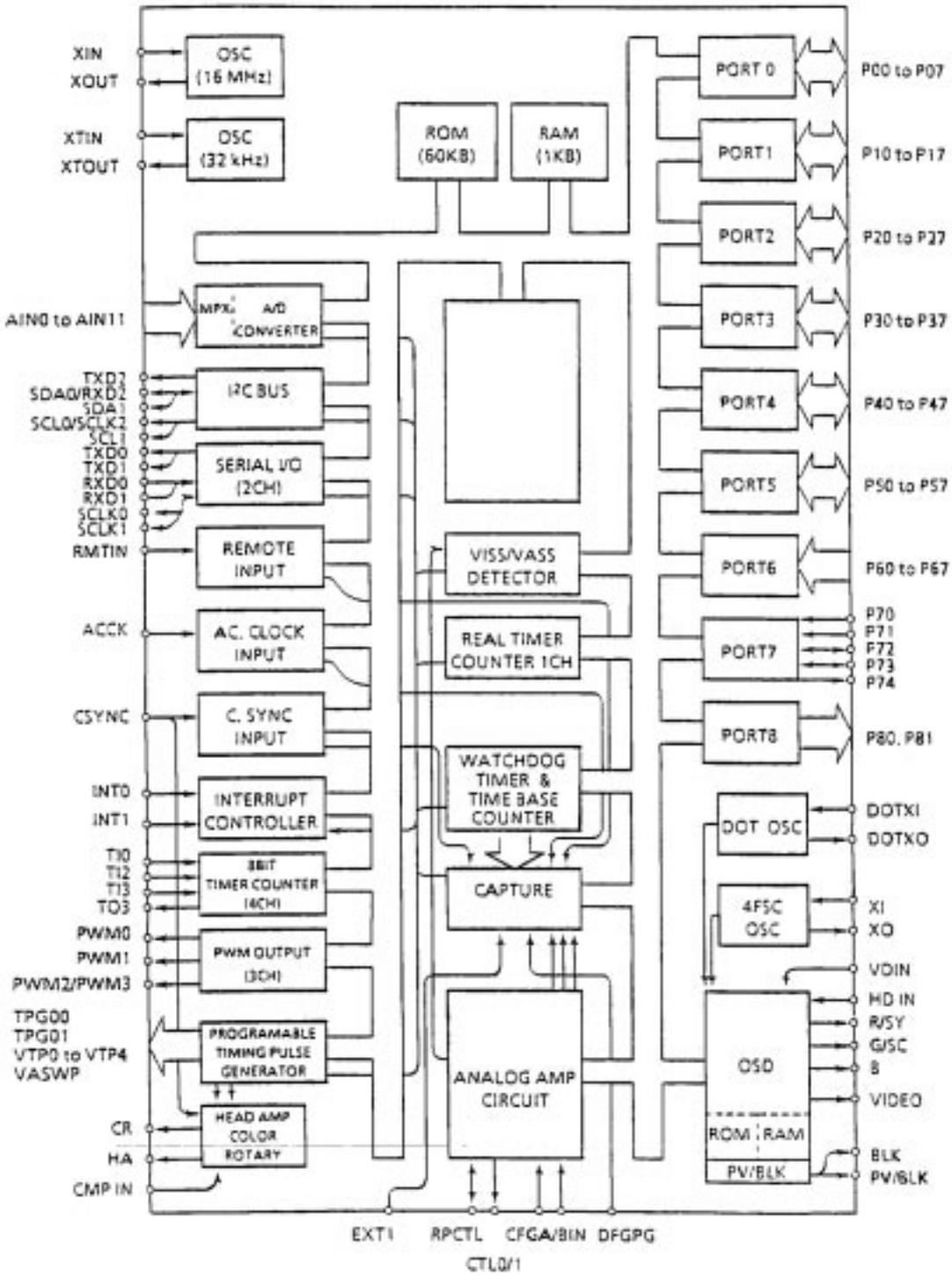

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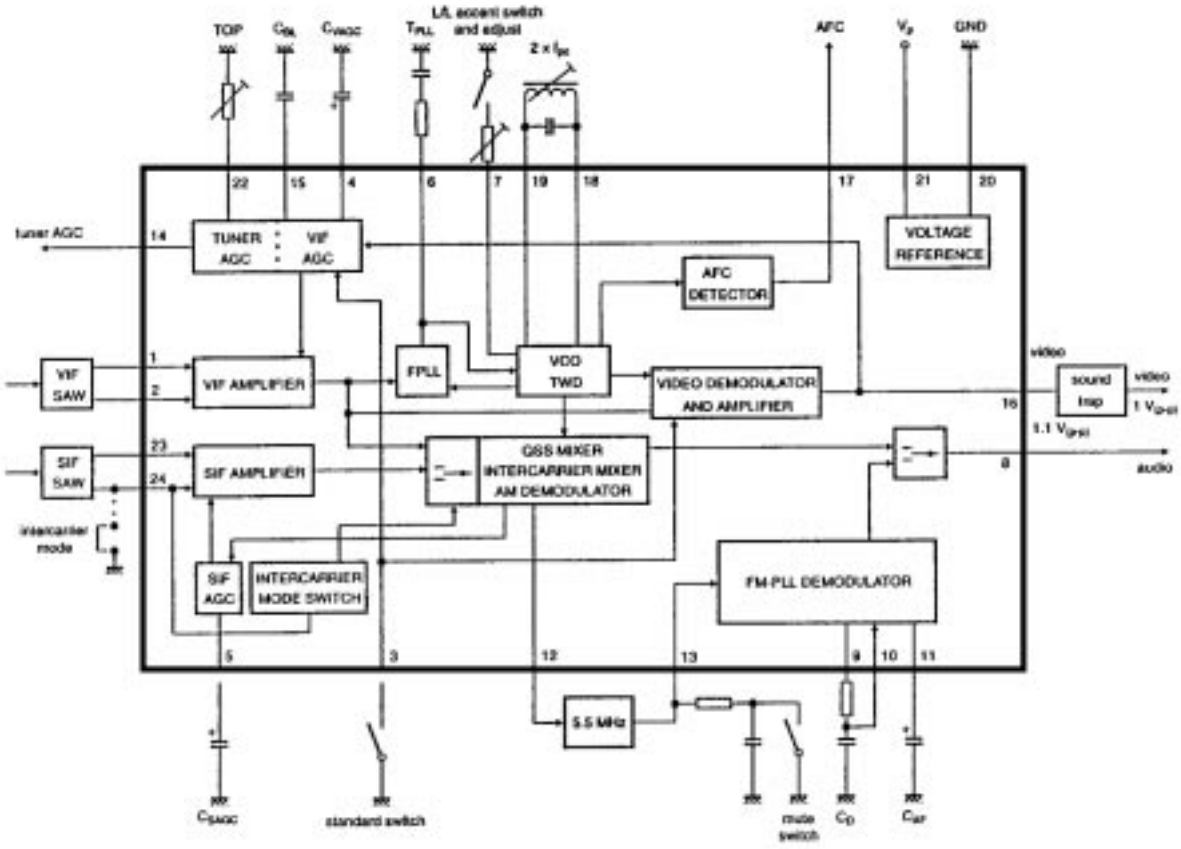

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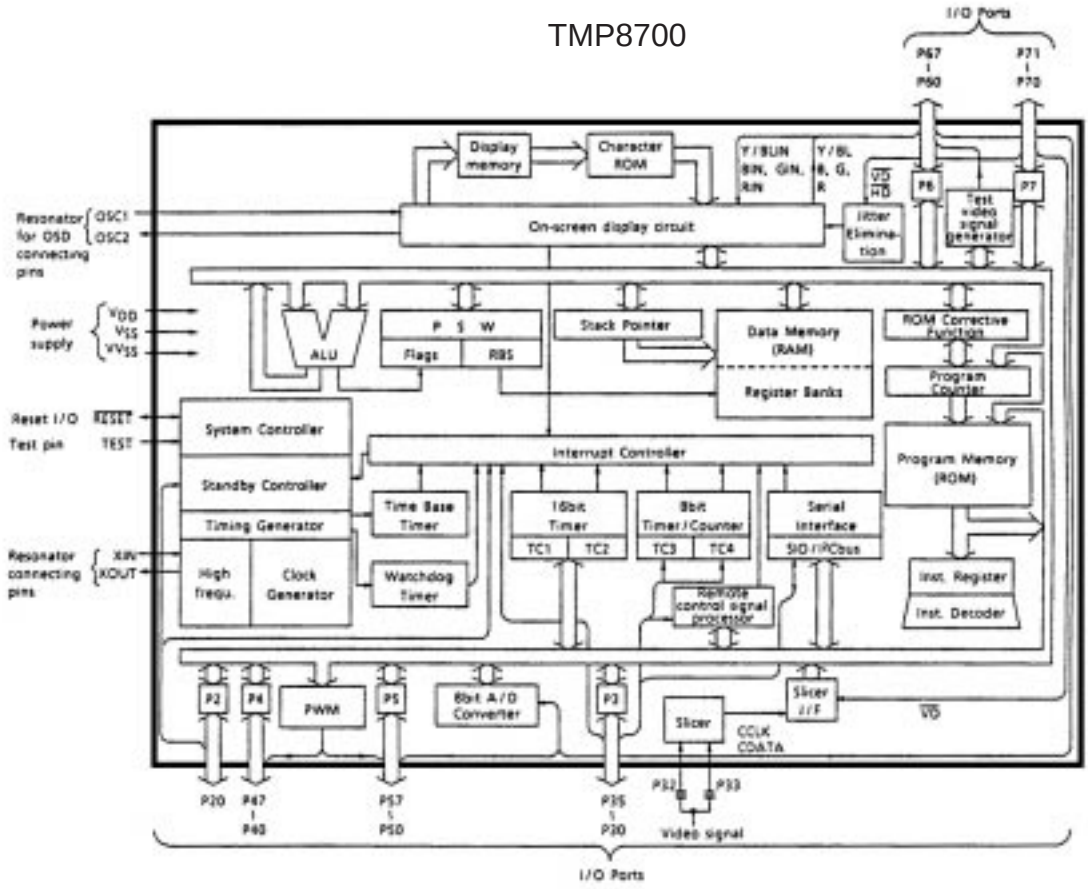

Abbreviations - Abreviations - Abkürzungen - Abbreviazioni - Abreviaciones

TV PART

BCL	Beam Current LIimiter	IR	Data From Infrared Rreceiver
BLACK_I	Black Current Input	MUTE	Mute Amplifier
B	Blue Signal To Video Amplifier	NORM_SW	Norm Switch
CVBS	Composite Vvideo Base Band Signal	R	Red Signal To Video Amplifier
DEG -COIL	Degauss Coil	SCL	Serial Clock
FAULT	Signal To Detect Fault Condition	SDA	Serial Data
FB	Fast Blanking	SIF	Sound IF
FB_TXT	Fast Blanking Signal From Text Modul	V _DRIVE	Drive Signal For Vertical Deflection
G	Green Signal To Video Amplifier	VT	Tuning voltage
HTR	Heater Voltage	+UB	System voltage

VCR PART

AC	Alternating Current	LP	Long Play
AGC	Automatic Gain Control	LPF	Low Pass Filter
A_IF	Audio IF	OSD	On Screen Display
AMP	Amplifier	PB	Playback
BLK	Blanking	PCB	Printed Circuit Board
CLK	Clock	PV	Pseudo Vertical Synch
COMP	Comparator	REC	Record
CR	Colour Rotary	REC_C	Record Chroma
CS	Chip Select	REW	Rewind
CSYNC	Composite Synch	SCL	Serial Clock
DC	Direct Current	SDA	Serial Data
DFF	Drum Flip Flop	SEC	SECAM
DLY	Delay	SW	Switch
F.FWD	Fast Forward	TMB	Terminal Board
FCB	Front Connection Board	VCO	Voltage Controlled Oscillator
GND	Ground	VCR	Video Cassette Recorder
HAB	Head Amplifier Board	VPS	Video Program System
HD	Horizontal Synch Pulse	Y/C	Luminance/Chrominance
KDB	Key Display Board		

CONDITION CODE | MAIN SYMPTOM CODE | EXTENDED SYMPTOM CODE (*1)

EACEM-IRIS REPAIR CODING SYSTEM

SYMPTOM CODE TABLE

EACEM IRIS

1	CONSTANTLY
2	INTERMITTENTLY
3	AFTER A WHILE
4	IN A HOT ENVIRONMENT
5	IN A COLD ENVIRONMENT
6	WHEN SWITCHING
7	UNDER VIBRATION
8	IN A DAMP/WET/ RAINY/SNOWY ENVIRONMENT
9	IN A DRY ENVIRONMENT
A	AFTER BEING DROPPED/ TRANSPORT DAMAGE
B	AFTER LIGHTNING STRIKE
C	ONLY CERTAIN STATIONS/ SOFTWARE/ MODE/ CHANNELS/ FREQUENCY BAND
D	ONLY ON CERTAIN STANDARDS
E	ONLY ON ONE CHANNEL
F	ONLY WITH CERTAIN INPUT(S)
G	ONLY ON CERTAIN OUTPUT(S)
H	IN STANDBY/OFF MODE
J	AT EDIT POINT
K	WHEN INTERCONNECTED
L	LIQUID CONTAMINATION
M	FOR A SHORT WHILE AFTER SWITCH-ON
N	AFTER MAKING A COPY
O	UNDER STRESSED CONDITIONS / HIGH LOAD
P	AT SWITCH-OFF

(*1)

CAUTION

THE 'X' EXTENDED SYMPTOM CODES (*-**X) SHOULD ONLY BE USED TO INDICATE THAT A SUITABLE SYMPTOM DESCRIPTION IS NOT AVAILABLE IN THE CONCERNED SYMPTOM GROUP

		1	NO ACTION	2	LEVEL	3	QUALITY	4	NOISE
1	GENERAL	110	POWER PROBLEM OR NOT OPERATING	120	CHARGING PROBLEM	130	DISPLAY FUNCTION PROBLEM	140	ABNORMAL NOISE
		111	NO POWER	121	NO BATTERY CHARGING	131	FAULTY DISPLAY	141	CRT DISCHARGING NOISE
		112	NO POWER WHEN USING AC-ADAPTER	122	INCOMPLETE BATTERY CHARGE	132	FAULTY LAMP/LED OPERATION	142	EHT DISCHARGING NOISE
		113	NO POWER WHEN USING DRY BATTERIES	123	CHARGING TIME TOO LONG	133	FAULTY LEVEL METER OPERATION	143	NOISY CABINET/CRACKING TRAYS
		114	NO POWER WHEN USING RECHARGEABLE BATTERIES	12X	OTHER 'CHARGING' PROBLEM	134	FAULTY ON-SCREEN DISPLAY OPERATION	144	NOISY TRANSFORMER/HUMMING
		115	NO POWER FROM SOLAR CELL			135	ELECTRONIC TUNING DISPLAY FAULT	145	NOISY COMPONENT(S)
		116	NO POWER WHEN USING A CAR BATTERY			136	MECHANICAL TUNING DISPLAY FAULT	146	RATTLE
		117	SHORT OPERATION TIME/SHORT BATTERY LIFE			137	FAULTY TIME CODE DISPLAY	147	CLICKING
		118	POWER-OFF FUNCTION NOT WORKING			138	FAULTY ALARM/ERROR DISPLAY	148	CLOCK NOISE
		119	NO SWITCH-ON FROM STANDBY			139	DISPLAY DIM/TOO DARK	149	CRACKING
		11A	POWERS UP, BUT NO OPERATION			13A	UNUSUAL OR INCORRECT MESSAGE IN DISPLAY	14A	WHISTLING
		11B	CYCLIC POWER ON/OFF			13B	NO BACKLIGHT	14X	OTHER 'ABNORMAL' NOISE
		11C	BLOWING EXTERNAL (MAINS) FUSE			13C	BEEPS, NO DISPLAY		
		11D	SET SWITCHES OFF BY ITSELF			13D	WARNING LIGHT DOES NOT WORK		
		11E	BACKUP BATTERY PROBLEM			13E	WARNING LIGHT LIGHTS UP		
		11F	NOT OPERATING			13X	OTHER 'DISPLAY FUNCTION' PROBLEM		
		11G	NO AUTOMATIC SWITCH ON/OFF						
		11H	PROTECTION SWITCH/FUSE IN SET TRIGGERS						
		11J	RECHARGEABLE BATTERY NOT RECOGNIZED						
		11X	OTHER 'POWER' PROBLEM						
2	COMMUNICATION	210	NO RECEPTION OR CONNECTION	220	POOR RECEPTION OR CONNECTION	230	TRANSMISSION/CONNECTION PROBLEM	240	NOISY RECEPTION/TRANSMISSION
		211	NO AM RECEPTION	221	POOR AM RECEPTION	231	NO TRANSMISSION/CONNECTION	241	LINE NOISE
		212	NO FM RECEPTION	222	POOR FM RECEPTION	232	POOR TRANSMISSION/CONNECTION	242	OSCILLATION
		213	NO SW RECEPTION	223	POOR SW RECEPTION	233	TRANSMISSION LEVEL TOO HIGH	243	INTERSTATION INTERFERENCE
		214	NO VHF RECEPTION	224	POOR VHF RECEPTION	234	NO TRANSMISSION BETWEEN BASE UNIT AND HANDSET	24X	OTHER 'NOISY RECEPTION/TRANSMISSION' PROBLEM
		215	NO UHF RECEPTION	225	POOR UHF RECEPTION	235	POOR TRANSMISSION BETWEEN BASE UNIT AND HANDSET		
		216	NO BS RECEPTION	226	POOR BS RECEPTION	236	NO IR TRANSMISSION		
		217	NO CS RECEPTION	227	POOR CS RECEPTION	237	ONE-SIDED CONNECTION		
		218	NO HDTV RECEPTION	228	POOR HDTV RECEPTION	238	MODEM HANGS UP IMMEDIATELY ONCE CONNECTED		
		219	NO GPS/QPS RECEPTION	229	POOR GPS/QPS RECEPTION	239	MODEM DROPS LINE DURING CONNECTION		
		21A	NO RECEPTION OF DIGITAL BROADCASTING	22A	POOR RECEPTION OF DIGITAL BROADCASTING	23X	OTHER 'TRANSMISSION/CONNECTION' PROBLEM		
		21B	NO IR RECEPTION	22B	POOR IR RECEPTION				
		21C	NO DIAL TONE	22X	OTHER 'POOR RECEPTION' PROBLEM				
		21D	NO MODEM/FAX CONNECTION						
		21E	MODEM NOT ANSWERING/NO CARRIER						
		21F	NO NETWORK CONNECTION/NETWORK INITIALIZATION FAILS						
		21X	OTHER 'NO RECEPTION' PROBLEM						
3	PICTURE	310	NO PICTURE	320	PICTURE LEVEL PROBLEM	330	PICTURE QUALITY PROBLEM	340	PICTURE NOISE
		311	NO PICTURE IN E TO E MODE	321	PICTURE TOO DARK	331	POOR PICTURE RESOLUTION	341	SNOWY PICTURE
		312	NO PICTURE IN PLAYBACK MODE	322	PICTURE TOO BRIGHT	332	POOR FOCUS	342	DOT NOISE OR DROPOUT ON PICTURE
		313	NO PICTURE IN VIEWFINDER	323	CONTRAST TOO LOW	333	RINGING ON PICTURE	343	NOISE BARS ON PICTURE
		314	NO PICTURE, ONLY RASTER	324	CONTRAST TOO HIGH	334	EXCESSIVE SMEAR/LAG	344	BLANKING LINES ON PICTURE
		315	NO RASTER, BLACK PICTURE	325	SATURATED WHITE OR BLACK LEVEL	335	POOR LINEARITY OR GEOMETRY	345	BEATING ON PICTURE
		316	ONLY HORIZONTAL LINE	326	SHADING ON PICTURE	336	PICTURE SIZE INCORRECT	346	GHOSTING ON PICTURE
		317	ONLY VERTICAL LINE	327	ONLY PARTIAL PICTURE	337	INCORRECT CENTRING OF PICTURE	347	VCR HEAD SWITCHING NOISE ON PICTURE
		318	NO PICTURE IN LCD	32X	OTHER 'PICTURE LEVEL' PROBLEM	338	PICTURE SLANTED	348	OVERMODULATION NOISE
		319	NO 2nd (OR HIGHER) MONITOR DISPLAY			339	V-SIZE INCORRECT	349	MOIRÉ
		31X	OTHER 'NO PICTURE' PROBLEM			33A	H-SIZE INCORRECT	34A	MOSAIC NOISE
						33X	OTHER 'PICTURE QUALITY' PROBLEM	34B	SCRAMBLED PICTURE
								34X	OTHER 'PICTURE NOISE' PROBLEM
4	COLOUR	410	NO COLOUR	420	COLOUR LEVEL PROBLEM	430	POOR COLOUR QUALITY	440	NOISY COLOUR
		411	NO COLOUR IN E TO E MODE	421	WEAK COLOUR	431	SOME OR ALL COLOURS MISSING	441	COLOUR NOISE ON A BLACK & WHITE PICTURE
		412	NO COLOUR IN PLAYBACK MODE	422	EXCESSIVE COLOUR	432	POOR WHITE BALANCE	442	COLOUR STREAKING
		413	NO COLOUR IN VIEWFINDER	42X	OTHER 'COLOUR LEVEL' PROBLEM	433	HUE PROBLEM	443	COLOUR BARS ON PICTURE
		414	NO COLOUR IN PART OF PICTURE			434	PURITY ERROR	44X	OTHER 'COLOUR NOISE' PROBLEM
		41X	OTHER 'NO COLOUR' PROBLEM			435	LANDING ERROR/WHITE UNIFORMITY		
						436	CONVERGENCE ERROR		
						437	REGISTRATION ERROR		
						438	PITCH MOIRÉ/RAINBOW PATTERN		
						439	COLOUR SHIFT		
						43X	OTHER 'COLOUR QUALITY' PROBLEM		
5	AUDIO	510	NO AUDIO	520	AUDIO LEVEL PROBLEM	530	AUDIO QUALITY	540	NOISY AUDIO
		511	NO SOUND IN E TO E MODE	521	LOW AUDIO LEVEL	531	POOR FREQUENCY RESPONSE	541	HUM
		512	NO PLAYBACK OF OUTGOING MESSAGE(S)	522	EXCESSIVE AUDIO LEVEL	532	DISTORTED AUDIO	542	HISS
		513	NO PLAYBACK OF INCOMING MESSAGE(S)	523	BALANCE PROBLEM	533	NO OR POOR TREBLE	543	CROSSTALK
		514	NO AUDIO PLAYBACK	524	FADER PROBLEM	534	NO OR POOR BASS	544	STATIC, POP OR CLICK NOISE
		515	NO SOUND FROM HANDSET	525	AUDIO LEVEL REMAINING/NO MUTING	535	EARPHONE/HEADPHONE AUDIO POOR	545	BUZZ
		516	NO SOUND FROM SPEAKER	52X	OTHER 'AUDIO LEVEL' PROBLEM	53X	OTHER 'AUDIO QUALITY' PROBLEM	546	SCRATCHING NOISE
		517	NO SOUND FROM EARPHONE/HEADPHONE					547	IGNITION NOISE
		518	NO MICROPHONE SOUND					548	WHISTLING/MULTIPATH NOISE
		519	NO SOUND FROM DIGITAL OUTPUT					549	DATA/DIGITAL NOISE
		51X	OTHER 'NO AUDIO' PROBLEM					54X	OTHER 'AUDIO NOISE' PROBLEM
6	MECHANISM	610	NO MECHANICAL OPERATION	620	IRREGULAR MECHANICAL OPERATION	630	SPEED PROBLEM	640	MECHANICAL NOISE
		611	NO ROTATION OF MOTOR/DISC	621	IRREGULAR ROTATION	631	SPEED TOO FAST	641	ROTATION NOISE/DRUM NOISE
		612	NO FORWARD OPERATION	622	IRREGULAR FORWARD MODE	632	SPEED TOO SLOW	642	MOTOR NOISE
		613	NO REVERSE OPERATION	623	IRREGULAR REVERSE OPERATION	633	SPEED UNADJUSTABLE	643	WIND/AIR NOISE
		614	NO FAST FORWARD OR REWIND FUNCTION	624	IRREGULAR FAST FORWARD OR REWIND FUNCTION	63X	OTHER 'SPEED' PROBLEM	644	SQUEALING
		615	NO LOADING	625	IRREGULAR LOADING OF MEDIA			645	FAN NOISE
		616	NO UNLOADING OR EJECTING	626	IRREGULAR UNLOADING OR EJECTING			646	DISC SCRAPING
		617	NO AUTO SHUT-OFF OPERATION	627	IRREGULAR AUTO SHUT-OFF OPERATION			647	NOISY TAPE LOADING
		618	TONEARM DOES NOT MOVE	628	IRREGULAR TONEARM MOVEMENT			648	GEAR NOISE
		619	DISC NOT BEING EJECTED	629	IRREGULAR EJECTION OF DISC			649	CONTROL OR SWITCH NOISY
		61A	MAGAZINE OR MODULE LOADING/UNLOADING	62A	IRREGULAR DIRECTION CHANGE			64A	GRINDING
		61B	CONTROL/SWITCH NOT WORKING	62B	FAULTY DISC CHANGE OPERATION			64B	RUMBLING
		61X	OTHER 'NO MECHANICAL OPERATION' PROBLEM	62X	OTHER 'IRREGULAR MECHANICAL OPERATION' PROBLEM			64C	VIBRATION NOISE
								64X	OTHER 'MECHANICAL NOISE' PROBLEM
7	DATA PROCESSING	710	NO DATA PROCESSING OPERATION	720	FAULTY DATA PROCESSING OPERATION	730	DATA DISPLAY PROBLEM	740	KEYBOARD/POINTING DEVICE
		711	NO INITIAL SCREEN	721	INCORRECT DATA	731	INCORRECT CHARACTER DISPLAY	741	MOUSE/TRACKBALL/TRACKPAD NOT WORKING
		712	SYSTEM DOES NOT RESET	722	SYSTEM RESET WHILE BEING USED	732	MISSING DISPLAY CHARACTERS		
		713	SYSTEM DOES NOT BOOT UP	723	SYSTEM LOCKS OUT/CRASHES/HANGS	733	FAULTY GRAPHIC DISPLAY	742	KEYBOARD LOCKS UP
		714	NO OPERATION FROM PLUG-IN MODULE/PERIPHERAL	724	FAULTY OPERATION OF PLUG-IN MODULE	734	FAULTY SWITCHING BETWEEN GRAPHIC/ CHARACTER MODE	743	POINTING DEVICE LOCKS UP
		715	NO KEYBOARD OPERATION	725	FAULTY KEYBOARD OPERATION	735	FAULTY PROMPT/CURSOR OPERATION	744	STICKY KEY(S)
		716	NO OPERATION FROM OTHER INPUT/OUTPUT DEVICE	726	FAULTY OPERATION OF OTHER INPUT/OUTPUT DEVICE	736	DATA DISPLAY COLOUR INCORRECT	745	INOPERATIVE KEY(S)
		717	NO DATA STORAGE OPERATION	727	FAULTY DATA STORAGE OPERATION	737	NO PAGING OR SCROLL MODE	746	POINTING DEVICE NOT TRACKING PROPERLY
		718	NO DATA COMMUNICATION	728	FAULTY DATA COMMUNICATION	73X	OTHER 'DATA DISPLAY' PROBLEM	747	POINTING DEVICE JITTERY
		719	ERROR MESSAGE DISPLAY	729	MEMORY ERROR			748	LEFT- OR RIGHT CLICK BUTTON INOPERATIONAL
		71A	HDD BOOT FAILURE	72A	REQUIRES 'SET UP' AT BOOTING			749	TRACKPAD SURFACE DAMAGED
		71B	FDD BOOT FAILURE	72X	OTHER 'FAULTY DATA PROCESSING' PROBLEM			74A	KEYBOARD KEY(S) DAMAGED
		71X	OTHER 'NO DATA PROCESSING' PROBLEM					74X	OTHER KEYBOARD/POINTING DEVICE PROBLEM
8	PRINT/COPY/SCAN	810	NO PRINT/COPY/SCAN OPERATION	820	ERRONEOUS PRINT/COPY/SCAN OPERATION	830	POOR PRINT QUALITY	840	NOISY PRINTING
		811	NOT PRINTING	821	PRINT IMAGE REVERSED (NEGATIVE/POSITIVE)	831	INCORRECT PRINTING POSITION	841	PRINTING NOISE LINES
		812	NO COMMUNICATION WITH PRINTER	822	IRREGULAR PAPER FEED	832	LOW PRINT CONTRAST	842	DIRTY PRINTING
		813	PAPER NOT LOADING	823	ERRONEOUS PRINT MODE SWITCHING	833	EXCESSIVE PRINT CONTRAST	843	UNPLEASANT SMELL (OZONE)
		814	NO PAPER FEED	824	COPY TOO DARK	834	BLURRED PRINT IMAGE	844	BLACK LINES/STRIPES IN FEED DIRECTION
		815	NO IMAGE FIXATION	825	COPY TOO BRIGHT	835	PRINT IMAGE NOT SHARP	845	WHITE LINES/STRIPES IN FEED DIRECTION
		816	NO DOCUMENT FEEDING	826	BLACK COPY	836	DOTS MISSING IN PRINT IMAGE	846	BLACK LINES/STRIPES ACROSS FEED DIRECTION
		817	SCANNER NOT WORKING	827	WHITE COPY	837	COLOUR STREAKING	847	WHITE LINES/STRIPES ACROSS FEED DIRECTION
		81X	OTHER 'NO PRINT/COPY/SCAN OPERATION' PROBLEM	828	POOR COLOUR LEVELS	838	NO COLOUR IN PART OF PICTURE	84X	OTHER 'NOISY PRINTING' PROBLEM
				829	IRREGULAR DOCUMENT FEED	839	PRINT IMAGE/COPY INCOMPLETE		
				82A	FAULTY CORRECTION FUNCTION	83A	FAULTY CALIBRATION		
				82B	POOR SCANNING QUALITY	83X	OTHER 'PRINT QUALITY' PROBLEM		
				82X	OTHER 'PRINT/COPY/SCAN OPERATION' PROBLEM				

	5	UNSTABLE	6	RECORDING & PHYSICAL PROBLEMS	7	SPECIAL FUNCTIONS	8	OTHER CONDITIONS
	150	REMOTE CONTROL PROBLEM	160	PHYSICAL DAMAGE	170	GENERAL FUNCTION PROBLEM	180	SPECIAL REQUIREMENTS
	151	NO REMOTE CONTROL OPERATION	161	DAMAGED/DEFORMED CABINET/PANEL	171	FAULTY CLOCK FUNCTION	181	TEST AND CHECK
	152	INCORRECT REMOTE CONTROL OPERATION	162	DAMAGED HANDLE/CLIP	172	FAULTY SLEEP FUNCTION	182	GENERAL OVERHAUL
	153	REMOTE CONTROL PROGRAMMING/ LEARNING MODE PROBLEM	163	DAMAGED CONTROL KNOB(S)/BUTTON(S)/KEYPAD	173	FAULTY TIMER PROGRAMMING	183	SYSTEM/FREQUENCY CONVERSION
	154	POOR REMOTE CONTROL SENSITIVITY	164	DAMAGED DOOR/COVER	174	FAULTY TIMER OPERATION	184	INITIAL SETUP/INSTALLATION REQUESTED
	15X	OTHER 'REMOTE CONTROL' PROBLEM	165	DAMAGED SEAL	175	PROGRAMMING/USER ADJUSTMENT PROBLEM	185	MODIFICATION/CIRCUIT/INSTALLATION CHANGE
			166	DAMAGED PLUG/SOCKET/TERMINAL/CONNECTOR	176	FAULTY RECORD MUTE OPERATION	186	WRONG PRODUCT IN CARTON
			167	DAMAGED LENS	177	FAULTY PROGRAMMED PLAYBACK OPERATION	187	ACCESSORY MISSING
			168	DAMAGED CARTRIDGE OR STYLUS	178	FAULTY MEMORY FUNCTION	188	UNABLE TO CONNECT PARTS/-TO ASSEMBLE
			169	DAMAGED ANTENNA	179	FAULTY INPUT SWITCHING	189	WRONG COLOUR
			16A	DAMAGED CRT OR VIEWFINDER/LCD DISPLAY	17A	FAULTY OUTPUT SWITCHING	18B	BATTERY MOUNTING PROBLEM
			16B	MISSING COMPONENT(S) OR ORNAMENTAL PARTS	17B	ELECTRIC SHOCK/STATIC DISCHARGE	18X	OTHER SPECIAL REQUIREMENTS
			16C	PRINTED MARKINGS ERASED/PEELED OFF	17C	FAULTY SEARCH FUNCTION (INDEX/VIEW/TITLE/CHAPTER/TRACK...)	18Z	SYMPTOM NOT AVAILABLE
			16D	SET BURNING/EMITS SMOKE	17D	WRONG LANGUAGE/CHARACTER SET		
			16E	EXTERNAL SURFACE DAMAGE (BUBBLING/PEELING/RUSTING/SCRATCHED)	17E	ERROR CODE APPEARS IN DISPLAY		
			16F	SMELL	17F	SWITCH NOT OPERATING		
			16G	WEAK/DAMAGED STAND	17G	PEDAL NOT OPERATING		
			16H	DAMAGED SPEAKER	17H	FAULTY STANDBY MODE		
			16J	SET GETS VERY HOT / PARTS MELTING	17J	FAULTY HIBERNATION MODE		
			16K	FOREIGN SUBSTANCE ON/IN UNIT	17K	NO AUDIBLE WARNING SIGNAL		
			16L	BURNING MARKS	17L	FAULTY OPERATION OF PARENTAL LOCK/KEYLOCK FUNCTION		
			16M	INTERNAL SURFACE DAMAGE (BUBBLING/PEELING/RUSTING/SCRATCHED)	17M	FAULTY MODE SWITCHING		
			16N	DAMAGED POWER CABLE	17N	MENU FUNCTION PROBLEM		
			16P	DAMAGED ACCESSORY	17X	OTHER 'GENERAL FUNCTION' PROBLEM		
			16R	DISCOLOURATION				
			16X	OTHER PHYSICAL DAMAGE				
	250	UNSTABLE RECEPTION/TRANSMISSION	260	TUNING PROBLEM	270	SPECIAL COMMUNICATION PROBLEM	280	SPECIAL RECEPTION PROBLEM
	251	TUNING DRIFT	261	MANUAL TUNING PROBLEM	271	FAULTY DIALLING	281	FAULTY STEREO RECEPTION
	252	FADING	262	AUTOMATIC TUNING PROBLEM	272	FAULTY CHANNEL SELECTION	282	FAULTY MAIN CHANNEL (A) FUNCTION
	253	INTERMITTENT LINE/LINE BREAKING OFF	263	INCORRECT TUNING	273	FAULTY AUTO-ANSWER OPERATION	283	FAULTY SUB-CHANNEL (B) FUNCTION
	254	NO OR UNSTABLE CONNECTION COMBINED WITH 'WEAK SIGNAL STRENGTH' INDICATION	264	TUNING MEMORY PROBLEM	274	FAULTY MESSAGE READ-OUT FUNCTION	284	FAULTY SSB RECEPTION
			26X	OTHER 'TUNING' PROBLEM	275	FAULTY AUTODIAL/REDIAL MEMORY	285	FAULTY RDS/VPS/PDC/XDS OPERATION
	25X	OTHER 'UNSTABLE RECEPTION/ TRANSMISSION' PROBLEM			276	FAULTY SPEECH PROCESSING	286	FAULTY TELETEXT/CLOSE CAPTION/EPG RECEPTION
					277	NO RINGING TONE	287	FAULTY SATELLITE/RTTY RECEPTION
					278	LOUD/WEAK RINGING TONE	288	FAULTY FAX OPERATION
					279	MODEM STUCK OFF HOOK	289	MODEM NOT RECOGNIZED BY SYSTEM
					27A	FAX DOES NOT WORK PROPERLY	28A	FAULTY CALL CHARGE DISPLAY
					27B	MODEM CAUSES PROBLEM WITH PHONE	28B	FAULTY HANDS-FREE OPERATION
					27C	NO MODEM DIAL TONE	28C	SET LOCKED
					27X	OTHER 'SPECIAL COMMUNICATION' PROBLEM	28X	OTHER 'SPECIAL RECEPTION' PROBLEM
	350	UNSTABLE PICTURE	360	POOR PICTURE RECORDING	370	SPECIAL PICTURE FUNCTION PROBLEM	380	PICTURE DISPLAY/PICKUP PROBLEM
	351	SYNC PROBLEM	361	NO PICTURE RECORDING	371	EDITING PROBLEM	381	BURN MARK ON DISPLAY/PICKUP
	352	PICTURE PUMPING	362	NO ERASURE PROTECTION FOR VIDEO	372	FAULTY FADING/WIPER OPERATION	382	SCRATCH ON DISPLAY/PICKUP
	353	PICTURE JITTER	363	PREVIOUS VIDEO RECORDING NOT BEING ERASED	373	FAULTY NEGATIVE/POSITIVE SWITCHING FUNCTION	383	DUST/DIRT ON DISPLAY/PICKUP
	354	PICTURE SHAKING (HORIZONTAL OR VERTICAL)	364	UNWANTED ERASURE OF PICTURE	374	FAULTY SUPERIMPOSE/TELOP OPERATION	384	PHOSPHOR/PIXEL MISSING ON DISPLAY/PICKUP
	355	FLICKERING PICTURE	365	NO CAMERA RECORDING	375	FAULTY PICTURE IN PICTURE/DIGITAL PICTURE OPERATION	385	BRIGHT POINT(S) IN PHOSPHOR/PIXEL
	356	FLASHING PICTURE	366	ONLY ONE FIELD PER FRAME BEING RECORDED	376	FAULTY PICTURE TRANSMISSION	386	LINES ACROSS/DOWN IMAGE
	357	CYCLIC PICTURE MUTING	367	RECORDS ONLY A FEW PICTURES	377	FAULTY DIGITAL SHUTTER FUNCTION	387	OUT OF SPECS PIXEL DEFAULTS
	358	HEAD IMPACT ERROR CAUSING UNSTABLE PICTURE	36X	OTHER 'PICTURE RECORDING' PROBLEM	378	FAULTY GENLOCK FUNCTION	388	BACKGROUND BURNT IN
	359	VCR SKEW/H-SHIFT ERROR			379	FAULTY FLASH/STROBE FUNCTION	38X	OTHER 'PICTURE DISPLAY/PICKUP' PROBLEM
	35A	FROZEN PICTURE			37A	FAULTY DIGITAL PICTURE/ZOOMING FUNCTION		
	35B	JUMPING/REPEATING PICTURE			37B	FAULTY AUTO-EDIT FUNCTION		
	35X	OTHER 'UNSTABLE PICTURE' PROBLEM			37C	FAULTY PICTURE STABILIZER FUNCTION		
					37D	FAULTY PICTURE CAPTURE FUNCTION		
					37E	FAULTY SUBTITLING FUNCTION		
					37F	FAULTY VARIABLE SPEED PLAYBACK		
					37G	FAULTY VIEW-/MULTI-ANGLE SWITCHING		
					37H	FAULTY ASPECT RATIO SWITCHING		
					37J	THUMBNAIL- OR INDEX PICTURE PROBLEM		
					37K	NO BLANKING SCREEN		
					37X	OTHER 'SPECIAL PICTURE FUNCTION' PROBLEM		
	450	UNSTABLE COLOUR	460	POOR COLOUR RECORDING	470	SPECIAL COLOUR FUNCTION PROBLEM	480	
	451	COLOUR FLASHING	461	NO COLOUR RECORDING	471	FAULTY AUTOMATIC WHITE BALANCE		
	452	HUE CONSTANTLY CHANGING	462	NOISY COLOUR RECORDING	472	FAULTY COLOUR EFFECTS FUNCTION		
	453	FLICKERING COLOUR	46X	OTHER 'COLOUR RECORDING' PROBLEM	47X	OTHER 'SPECIAL COLOUR FUNCTION' PROBLEM		
	454	COLOUR NOT LOCKED						
	45X	OTHER 'UNSTABLE COLOUR' PROBLEM						
	550	UNSTABLE AUDIO	560	POOR AUDIO RECORDING	570	POOR SPECIAL AUDIO FUNCTION	580	STEREO/MULTI MODE OPERATION PROBLEM
	551	JUMPING OR REPEATING AUDIO	561	AUDIO NOT BEING RECORDED	571	FAULTY FADE OPERATION	581	NO STEREO OPERATION
	552	AUDIO PUMPING OR BREATHING	562	NO ERASURE PROTECTION FOR AUDIO	572	FAULTY ECHO OPERATION	582	POOR CHANNEL SEPARATION
	553	AUDIO DROPOUTS	563	PREVIOUS AUDIO RECORDING NOT BEING ERASED	573	FAULTY MIXING OPERATION	583	DIFFERENCE IN PHASE BETWEEN CHANNELS
	554	CYCLIC AUDIO MUTING	564	UNWANTED ERASURE OF AUDIO	574	FAULTY REPEAT MODE OPERATION	584	PROBLEM WITH SURROUND SOUND MODE
	555	WOW AND FLUTTER	565	MESSAGE NOT BEING RECORDED	575	FAULTY AUDIO PROCESSING	585	PROBLEM WITH PCM AUDIO MODE
	556	HOWLING/ACOUSTIC FEEDBACK	566	DISTORTED AUDIO RECORDING	576	FAULTY SYNC RECORDING OPERATION	58X	OTHER 'STEREO/MULTI MODE' PROBLEM
	557	ECHO IN SOUND	56X	OTHER 'AUDIO RECORDING' PROBLEM	577	FAULTY DBB/DOL OPERATION		
	55X	OTHER 'UNSTABLE AUDIO' PROBLEM			578	FAULTY NOISE REDUCTION OPERATION		
					579	FAULTY AUDIO DUB FUNCTION		
					57A	FAULTY TITLE PROGRAMMING		
					57B	FAULTY MIC CONTROL		
					57C	FAULTY PITCH CONTROL		
					57X	OTHER 'SPECIAL AUDIO FUNCTION' PROBLEM		
	650	MECHANICAL INSTABILITY	660	DAMAGE TO MEDIA	670	MECHANICAL OPERATION PROBLEM	680	LENS PROBLEM
	651	UNEVEN FEET	661	TAPE GETS SCRATCHED	671	FAULTY START/STOP OPERATION	681	FOCUS PROBLEM
	652	FAULTY HINGE	662	DISC GETS SCRATCHED	672	FAULTY PAUSE OPERATION	682	ZOOM PROBLEM
	653	VIBRATING/JUMPING	663	TAPE GETS CHEWED/WRINKLED	673	FAULTY AUTOMATIC PROGRAM SEARCH	683	IRIS PROBLEM
	654	PARTS LOOSE	664	TAPE JAMMED OR BROKEN	674	FAULTY CUE/REVIEW MODE	684	MACRO PROBLEM
	655	DAMAGED WHEEL(S)	665	TAPE GETS CURLED	675	FAULTY SLOW MOTION OPERATION	68X	OTHER 'LENS' PROBLEM
	65X	OTHER 'MECHANICAL INSTABILITY' PROBLEM	666	SLACK TAPE	676	FAULTY HIGH-SPEED SCANNING MODE		
			667	TAPE STICKING	677	FAULTY SPEED COPY FUNCTION		
			66X	OTHER 'SOFTWARE DAMAGE' PROBLEM	678	FAULTY REPEAT OPERATION		
					679	FAULTY RECORD REVIEW MODE		
					67A	FAULTY AMS OPERATION		
					67B	AUTO-REVERSE MALFUNCTION		
					67C	FAULTY END DETECTION		
					67D	FAULTY DISC SIDE (A-B SELECT) SWITCHING		
					67X	OTHER 'MECHANICAL OPERATION' PROBLEM		
	750	PERIPHERAL PROBLEM (NON-STORAGE)	760	DATA STORAGE PROBLEM	770	SPECIAL DATA PROCESSING FUNCTION PROBLEM	780	INTERFACE PROBLEM
	751	PERIPHERAL DOES NOT INITIALISE	761	FORMATTING PROBLEM	771	FAULTY SELF-DIAGNOSTIC MODE	781	USB INTERFACE PROBLEM
	752	COMMUNICATION FAILURE WITH PERIPHERAL	762	DATA ON STORAGE MEDIUM BEING LOST	772	FAULTY WORD PROCESSING FUNCTION	782	PARALLEL INTERFACE PROBLEM
	753	INTERNAL PERIPHERALS FAILURE	763	FRAME MEMORY PROBLEM	773	FAULTY GRAPHIC EDIT FUNCTION	783	SCSI INTERFACE PROBLEM
	754	EXTERNAL PERIPHERALS FAILURE	764	READ/WRITE ERRORS	774	PROGRAM CANNOT BE INSTALLED	784	SERIAL INTERFACE PROBLEM
	755	NETWORK CARD ERROR	765	HARD- OR OPTICAL DRIVE PROBLEM	775	PRE-LOADED PROGRAM CANNOT BE STARTED UP	785	INCOMPATIBLE WITH OTHER SYSTEMS
	756	PERIPHERAL FAILS SELF TEST	766	FLOPPY DRIVE PROBLEM	776	NOT PRE-LOADED PROGRAM CANNOT BE STARTED UP	786

EACEM - SECTION CODES

COMMON	
ANT	ANTENNA SECTION
APR	SIGNAL PROCESSING (ANALOG)
BCH	BATTERY CHARGE
CLK	CLOCK/TIMER SECTION
CPA	COLOUR PROCESSING/ANALOG
CTR	CONTROL PANEL
DPR	SIGNAL PROCESSING (DIGITAL)
ERA	ERASE CIRCUIT
FLX	FLEXIBLE PRINTED CIRCUIT BOARD
HFS	HIGH FREQUENCY SECTION (RF)
IDS	INFORMATION DISPLAY SECTION
IFC	IF-CIRCUIT
ILN	i.LINK (IEEE1394) SECTION
INP	SIGNAL INPUT SECTION
IRD	INFRARED (IrDA) SECTION
MEM	MEMORY CIRCUIT
OUT	SIGNAL OUTPUT SECTION
PRG	PROGRAMMING SECTION
PRT	PROTECTION CIRCUIT
PSU	POWER SUPPLY
PWA	POWER AMP SECTION
REM	REMOTE CONTROL SECTION
RFU	BOOSTER,RF UNIT
SFT	SOFTWARE (TAPE, DISC, ETC.)
SNS	SENSOR UNIT
SVO	SERVO SECTION
SYS	SYSTEM CONTROL SECTION
TUN	TUNING SECTION
TXT	TEXT PROCESSING
SOUND-RELATED	
APA	AUDIO PROCESSING/ANALOG
APD	AUDIO PROCESSING/DIGITAL
CDC	CD CHANGER SECTION
CDS	CD SECTION
MDC	MD CHANGER SECTION
MDS	MINIDISC SECTION
MIC	MICROPHONE SECTION
PUD	PICK-UP DEVICE
SHD	STATIONARY HEAD(S)
SPK	SPEAKER
PICTURE-RELATED	
CAM	CAMERA CIRCUIT
CPD	COLOUR PROCESSING/DIGITAL
CRT	PICTURE TUBE
DFL	DEFLECTION CIRCUIT
DVD	DVD SECTION
FPK	FOCUS PACK
IMG	IMAGE DISPLAY UNIT

PICTURE-RELATED	
LCD	LCD SECTION
LMP	LAMP/FLASH SECTION
VPA	VIDEO PROCESSING/ANALOG
VPD	VIDEO PROCESSING/DIGITAL
VWF	VIEWFINDER
PC-RELATED	
FDD	FLOPPY DISC DRIVE
FMW	FIRMWARE
HDD	HARD DISC DRIVE
ISA	ISA SECTION
JST	JOYSTICK
KBD	KEYBOARD (SEPARATE)
MDM	MODEM SECTION
NIF	NETWORK INTERFACE
PAR	PARALLEL PORT
PCC	PC CARD
PCI	PCI SECTION
SCS	SCSI PORT
SER	SERIAL PORT
USB	USB PORT
MECHANICAL	
ARM	ARM MECHANISM
BZL	BEZEL
CBT	CABINET
CHA	CHASSIS
DDM	DISC DRIVE MECHANISM
EXC	EXTERNAL CONNECTOR
HCM	HEAD CARRIAGE MECHANISM
HOL	CASSETTE HOLDER
INC	INTERNAL CONNECTOR
LDG	LOADING MECHANISM
LNM	LENS MECHANISM
PFM	PAPER FEED MECHANISM
PIN	PINCH ROLLER/LEVER
PRI	PRINT BLOCK
RFM	RIBBON FEED MECHANISM
RHD	ROTARY HEAD(S)
SLD	SLED MECHANISM
SRS	SUPPLY REEL SECTION
STA	STATIC BLOCK
TDM	TAPE DRIVE MECHANISM
THR	THREADING MECHANISM
TNR	TENSION REGULATOR
TPT	TAPE PATH
TRS	TAKE-UP REEL SECTION
WIR	LEAD WIRE
XXX	CABINET/COSMETIC PARTS

EXAMPLE OF USE:

FLAG	SYMPTOM CODE	PART NO.	REF. NO.	SECTION	PCB	DEFECT CODE	REPAIR CODE	QTY
1	1436 41	134 56 71 89 1XX XX XX XX XX XX	R11 123	TDM	YA22	C1	Z1	

FLAG: INDICATES THE ONE MAJOR SYMPTOM/PART COMBINATION BY '1'

DEFECT CODES

MECHANICAL	
A	WORN OUT (OR GENERAL MECHANICAL DEFECT)
A1	MISOPERATING
B	DIRTY, CLOGGED
C	MECHANICALLY MISALIGNED
D	CUT, BROKEN
E	DEFORMED
F	SNAPPED
G	SCRATCHED, DENTED, SHARP EDGES
H	CRACKED, PEELED, CORRODED, MELTED
I	LOOSE/OFF/STRIPPED
J	SHAKY, UNSTABLE
K	LEAKING (MECHANICAL)
L	DRY (NO LUBRICANT)
M	FOREIGN OBJECT

ELECTRICAL	
N	DEFECTIVE ELECTRICAL COMPONENT/MODULE
O	BURNT, ARCING, MISSING PIXELS
P	ELECTRICALLY MISALIGNED/WRONG SETTING
Q	SHORT CIRCUIT
R	OPEN CIRCUIT
S	LEAKING (ELECTRICAL)
T	BAD CONTACT, CONNECTION
T1	BAD EARTH CONNECTION
U	OPEN PATTERN
V	CRACKED PRINTED CIRCUIT BOARD
W	COLD OR NO SOLDERING
X	BRIDGED SOLDERING
Y	WRONG COMPONENT/MODULE
Z	MISSING COMPONENT/MODULE
1	SOFTWARE PROBLEM
11	LOSING DATA FROM MEMORY
12	FAULTY PROGRAM SETTING/INSTALLATION
13	SOFTWARE DEFECTIVE OR INCOMPLETE
14	SOFTWARE SETUP PROBLEM
15	NO IDENTIFICATION / AUTHENTICATION OF PRODUCT OR USER
2	EXHAUSTED, LOW EMISSION
3	NO PROBLEM FOUND (SET WITHIN SPEC)
4	NO PROBLEM FOUND - CUSTOMER MISUNDERSTANDING
5	NO PROBLEM FOUND - LOCAL CONDITIONS
51	FAULTY MAINS VOLTAGE
6	UNABLE TO DIAGNOSE FAULT
7	INCORRECTLY WIRED/ASSEMBLED
81	INCORRECT EQUIPMENT CONNECTION
9	CUSTOMER MISUSE
93	UNAUTHORISED MODIFICATION

REPAIR CODES

A	REPLACEMENT
B	MECHANICAL ALIGNMENT
C	ELECTRICAL ALIGNMENT
D	RESOLDERING
D1	REFITTING, PUT BACK IN POSITION (CONNECTOR, TUBE...)
E	CLEANING
F	LUBRICATION
G	REPAIRED ELECTRICAL PARTS
H	REPAIRED MECHANICAL PARTS
I	MODIFICATION REQUESTED BY MANUFACTURER
J	REMOVED
K	ADDED
L	FUNCTIONAL CHECK
M	SPECIFICATION MEASUREMENT
N	MAINTENANCE
O	REFURBISHING, RECONDITIONING
P	PREVENTIVE PARTS REPLACEMENT

Q	PREVENTIVE ACTION WITHOUT PARTS REPLACEMENT
U	EXPLANATION FOR CUSTOMER
V	COST ESTIMATION REFUSED
W	COST ESTIMATION WITH PARTS
X	COST ESTIMATION WITHOUT PARTS
Y	RETURN WITHOUT REPAIR
Z	PRODUCT EXCHANGE
Z1	PRODUCT EXCHANGE (REPAIR TOO EXPENSIVE)
Z2	PRODUCT EXCHANGE (TOO MANY VISITS/REPAIRS)
Z3	PRODUCT EXCHANGE (PARTS NOT AVAILABLE)
Z4	PRODUCT EXCHANGE (IMPOSSIBLE TO REPAIR)
Z5	PRODUCT EXCHANGE (ON REQUEST OF RETAILER)
Z6	PRODUCT EXCHANGE (ON REQUEST OF MANUFACTURER)
1	SOFTWARE CORRECTION/RESET
2	SOFTWARE UPGRADE
3	PRODUCT UPGRADE (ON REQUEST)

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WARNING : *Before servicing this chassis read the safety recommendations.*
ATTENTION : *Avant toute intervention sur ce châssis, lire les recommandations de sécurité.*
ACHTUNG : *Vor jedem Eingriff auf diesem Chassis, die Sicherheitsvorschriften lesen.*
ATTENZIONE : *Prima di intervenire sullo chassis, leggere le norme di sicurezza.*
IMPORTANTE : *Antes de cualquier intervención, leer las recomendaciones de seguridad.*

Do not disconnect modules when they are enregized! Repairs on power supply section are to be carried out only with isolating transformer.
Ne pas retirer les modules lorsqu'ils sont sous tension. N'effectuer les travaux de maintenance sur la partie reliée au secteur (Switch Mode) qu'au travers d'un transformateur d'isolement.
Module nicht bei eingeschaltetem Gerät entfernen ! Servicearbeiten am Netzteil nur unter Verwendung eines Regeltrenntrafos durchführen.
Non scollegare i moduli quando sono alimentati! Intraprendere riparazioni sulla sezione alimentatore solo con trasformatore isolante.
No desconectar los módulos cuando están activados. Las reparaciones en la sección de alimentación de energía deben ser ejecutadas solamente con un transformador de separación.

⚠ Indicates critical safety components, and identical components should be used for replacement. Only then can the operational safety be garanteed.
Le remplacement des éléments de sécurité (repérés avec le symbole ⚠) par des composants non homologués selon la Norme CEI 65 entraine la non-conformité de l'appareil. Dans ce cas, la responsabilité du fabricant n'est plus engagée.
Wenn Sicherheitsteile (mit dem Symbol⚠ gekennzeichnet) nicht durch Original - Ersatzteile ersetzt werden, erlischt die Haftung des Herstellers.
La sostituzione degli elementi di sicurezza (marcati con il segno⚠) con componenti non omologati secondo la norma CEI 65 comporta la non conformitá dell'apparecchio. In tal caso è "esclusa la responsabilità " del costruttore.
La sustitución de elementos de seguridad (marcados con el simbolo ⚠) por componentes no homologados segun la norma CEI 65, provoca la no conformidad del aparato. En ese caso, el fabricante cesa de ser responsable.

Note : During measurements in the power supply unit, use the primary power unit ground (Emit. TP060).
Attention : Mesures dans le bloc alimentation. Utiliser la masse du bloc alimentation (Emet. TP060).
Achtung : Bei Messungen im Primärnetzteil. Primärnetzteilmasse verwenden (Emit. TP060).
Attentionze : Misure nell'alimentatore primario. Usare massa alimentazione primario (Emet. TP060).
Cuidado : Medida en el bloque de alimentación. Utilizar la masa del bloque de alimentación (Emet. TP060).

MEASUREMENT CONDITIONS - CONDITIONS DE MESURES - MESSBEDINGUNGEN CONDIZIONI DI MISURA - CONDICIONES DE MEDIDAS

RECEIVER :
Bar test pattern : PAL, I standard, 100% white.

- On UHF, input level 1 mV
- Via the scart socket, input level 1 Vpp

Colour, contrast and brightness at mid-position, sound at minimum.
Programme selected : PR 01.
DC voltages measured between the point and earth using a digital voltmeter.

RECEPTEUR :
Mire de barres : SECAM, Norm L, Blanc 100%.

- En UHF, niveau d'entrée 1 mV
- Par la prise Péritélévision, niveau d'entrée 1Vcc.

Couleur, contraste, lumière à mi-course, son minimum.
Programme affecté PR 01.
Tensions continues relevées par rapport à la masse avec un voltmètre numérique.

EMPFÄNGER :
Farbbalken : PAL, Norm G, Weiss 100%

- Bei UHF Eingangspegel 1 mV.
- Über die Scartbuchse : Eingangspegel 1 Vss.

Farbe, Kontrast, Helligkeit in der Mitte des Bereichs, Ton auf Minimum.
Zugeordnetes Programm PR 01.
Gleichspannungen mit einem digitalen Voltmeter zur Masse gemessen.

RICEVITORE :
Monoscopio per barre : PAL, norma G. bianco 100%.

- In UHF, livello d'entrata 1 mV,
- Per la presa SCART, livello d'entrata 1 Vcc.

Colore, Contrasto, Luce a metä corsa, Suono minimo.
Programma designato PR 01.
Tensioni continue rilevate rispetto alla massa con un voltametro numerico.

RECEPTOR :
Mira de barras : PAL, norma G, blanco 100%.

- En UHF, nivel de entrada 1 mV,
- Por la toma Peritelevision, nivel de entrada 1 Vpp.

Color, Contraste, luz a mitad de carrera, Sonido minimo.
Programa afectado PR 01.
Tensiones continuas marcadas en relacion a la masa con un voltimetro digital.

CLASS 1 LASER PRODUCT
APPAREIL A LASER DE CLASSE 1
LASER KLASSE 1
APARATO CON LASER DE CLASE 1
APPARECCHIO CON LASER DI CLASSE 1

DANGER :	**Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.**
ATTENTION :	**Le rayon laser est invisible. Eviter l'exposition directe lors de la maintenance.**
VORSICHT BEI REPARATUREN :	**Bei geöffneter Schublade und Defekt der Sicherheits - vorrichtungen besteht die Gefahr unsichtbaren Laserlichts. Niemals direkt in den Laserstrahl sehen.**
ATTENZIONE :	**Il raggio laser è invisibile. Evitare l'esposizione diretta durante la manutenzione.**
IMPORTANTE :	**El rayo laser es invisible. Evitar la exposición directa en el momento del mantenimiento.**

PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE DEVICES (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity.
Such components commonly are called Electrostatically Sensitive Devices (ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ESD devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ESD devices.
4. Use only an anti-static solder removal devices. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESD devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESD devices.
6. Do not remove a replacement ESD device from its protective package until immediately before your are ready to install it. (Most replacement ESD devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive materials).
7. Immediately before removing the protective materials from the leads of a replacement ESD device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ESD devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ESD device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are imporant for safety, these part are marked by ⚠ symbol on the schematic circuit diagrams and replacement part list. It is essential that these safety critical components are replaced with the manufacture's specified parts to prevent electric shock, fire, or other hazards. do not attempt to modify the original design without permission of the manufacturer.

EN 1.2 Service Mode adjustment

1.2.1 Setup value

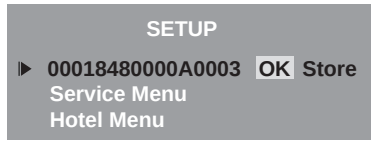
The Setup values are stored in the EEPROM. Each item has its own Setup value; these are listed in the index.
After replacing IT 004 (EEPROM), the configuration must be reset. You must go into the service mode (see TV section) to enter these values. The following menu appears:

Data input:
The digit to be validated flashes on the screen. The ⩓ ⩔ keys on the remote control should be used to enter or modify the information.

FR 1.2. Réglage du mode service

1.2.1. Valeur de Setup

Les valeurs de Setup sont stockées dans l'EEPROM . Chaque référence commercial à sa valeur de Setup, celle-ci y sont répertoriées au sommaire .
Aprés remplacement de IT 004 (EEPROM), il est nécessaire de refaire cette configuration. Pour rentrer ces valeurs, il faut accéder au mode service (voir partie TV) .Le menu suivant apparaît :

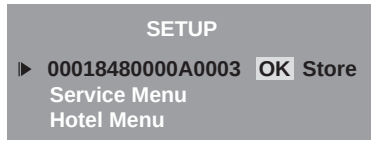


Entrée des données :
Le digit à valider clignote sur l'écran, les entrées ou modifications sont faites à l'aide des touches ⩓ ⩔ de la télécommande.

DE 1.2. Einstellungen im Service Mode

1.2.1. Set-Up-Werte

Die Set-Up-Werte sind in einem EEPROM gespeichert. Alle Eigenschaften Konfiguration des Gerätes sind mit jeweils einem Set-Up-Wert festgelegt. Alle Werte sind in der Set-Up-Zeile zusammengefasst. Wurde das EEPROM ersetzt, muss eine Neukonfiguration des Gerätes durchgeführt werden. Zur Eingabe der Set-Up-Werte muss der Service-Mode aktiviert werden (siehe im kapitel TV). Es erscheint folgendes Menü:

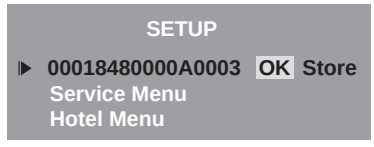


Dateneingabe:
Das zu bestätigende Digit blinkt auf dem Bildschirm.
Die Eingaben oder Änderungen erfolgen unter Benutzung der Tasten ⩓ ⩔ der Fernbedienung.

IT 1.2 Regolazioni Service Mode

1.2.1 Valore di impostazione (Setup)

I valori di impostazione (Setup) sono memorizzati nella EEPROM. Adogni riferimento commerciale corrisponde un proprio valore di Setup; questi valori sono riportati nella tabella di pagina 1.
In caso di sostituzione della memoria IT004 (EEPROM) è necessario immettere nuovamente i dati di Setup. Per inserire qesti dati in memoria bisogna accedere al Service Mode (vedi sezione TV). La prima pagina del Service Mode è la sguente:

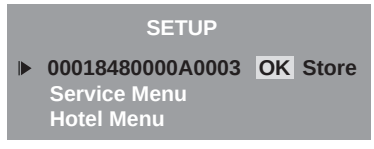


Immissione dei dati:
La cifra su cuiè possibile intervenire è quella lampeggiante.
Per inserire nuovi dat agire sul tasti ⩓ ⩔ del telecomando

ES 1.2. Ajuste del modo de servicio

1.2.1. Valor de Setup

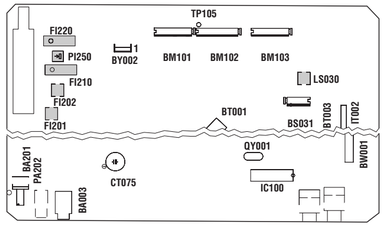
Los valores de Setup están almacenados en el EEPROM. Cada referencia comercial tiene su valor de Setup, los cuales se enumeran en el índice.
Después de reemplazar IT 004 (EEPROM), es necesario configurar de nuevo este valor. Para ello hay que acceder al modo de servicio (ver la parte referente a la TV); aparece el menú siguiente:



Introducción de datos:
El dígito que se debe validar parpadea en la pantalla, y las entradas o modificaciones se realizan con las teclas ⩓ ⩔ del mando a distancia.

2. Electrical adjustments - Réglages éléctrique - Elektrische Einstellungen - Regolazioni elettriche - Ajustes eléctricos

2.1. Test points and adjustement overview - Emplacement des points test et des réglages - Lage der Messpunkte und Einsteller - punti test e visione d'insieme delle regolazioni - Punto de prueba y emplazamientos de los ajustes



2.2. Tuners/IF Alignments

Alignment Traps

N°	Item	Mode & signal	Test equipment	Test point	Adjustment point	Description
2.2.1	31.9 MHz Trap	Standard PAL/BG Signal 31.9 MHz 30mV to TP35	Spectrum Analyser or similar equipment	TP38	FI202	Minimum 31.9 MHz signal
2.2.2	40.4 MHz Trap	Standard PAL/BG Signal 40.4 MHz 30mV to TP35		TP38	FI201	Minimum 40.4 MHz signal

Video Reference Filter

N°	Item	Mode & signal	Test equipment	Test point	Adjustment point	Description
2.2.3	Video Reference Filter	Standard PAL/BG Signal 38.9 MHz 30mV to TP35	DC Voltmeter	TP33 (pin 17/ II250)	FI201	2.5V DC (+/- 0.1 V)

AFT Function Test
- Repeat 2.2.3
- Change the input frequency to 38.8 MHz; check AFT output voltage : > 3V.
- Change the input frequency to 39.0 MHz; check AFT output voltage : < 2V.

AGC

N°	Item	Mode & signal	Test equipment	Test point	Adjustment point	Description
2.2.4	AGC	- Apply a RF signal 3 mVrms without modulation to power splitter NH002 Antenna input For **BGLL' & BGDKK'** - RF signal: 203.25MHz (CH 09, BG) For **I** - RF signal: 215.25MHz (CH 09, I)	CI271 TP38 IF(V) RI282 Monitor IF output		PI250	- PI250 to maximum Tuner gain - Adjust PI250 for -10 dB (-1dB, +2dB) attenuation from the maximum IF output level

2.3. Audio signal processing - Traitement audio - Audio Signalverarbeitung - Elaborazione segnale audio - Procesamiento audio

N°	Item	Mode & signal	Test equipment	Test point	Adjustment point	Description
2.3.1	Bias oscillator frequency & level	REC (without signal)	Oscilloscope	BS030 pin 1	None	Check for 70KHz ± 4KHz 40Vpp ± 4Vpp
2.3.2	Bias Current Check	REC (without signal)	Voltmeter (high impedance scope probe)	IY001 pin3	None	Bias level :V= 1.1Vpp – 0,2V

2.4. Measurements Servo Part - Vérifications sur les circuits d'asservissements - Messungen Servoteil Controlli parte Servo - Verificaciones para parte Servo

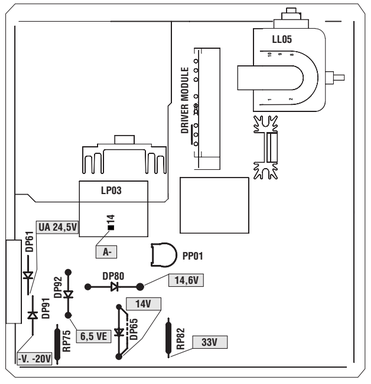
N°	Item	Mode & signal	Test equipment	Test point	Adjustment point	Description
2.4.1	Oscillator frequency		Frequency counter	IT001 pin63	None	Confirm f= 8 MHz ±1250 Hz
2.4.2	Drum FF (Flip Flop)	PB /REC	Oscilloscope	IT001 pin89	None	Confirm 25 Hz signal
2.4.3	Capstan FG frequency	PB /REC (SP)	Frequency counter	IT001 pin44	None	Confirm 757 Hz ±10Hz
2.4.4	Head switching	PB	Dual trace oscilloscope Trigger ext. BW002/3 (Drum FF)	Scart BX001 pin19	by software setup	1. Insert alignement test cassette. 2. Go to playback mode 3. Check that the Head Switching Point is 6,5 H ±1H before vertical synchro. 6.5 ± 1H

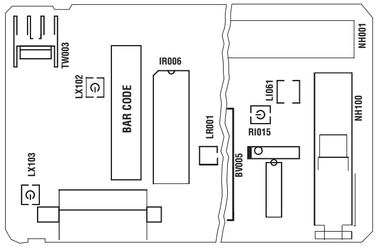
2.5. Video signal processing - Traitement video - Video Signalteil - Elaborazione segnale video - Tratamiento video

N°	Item	Mode & signal	Test equipment	Test point	Adjustment point	Description
2.5.1	CVBS EE level	Select AV1 REC PAL PAL grey scale 1Vpp AV 1 pin20	Oscilloscope	AV 1 pin19	None	Check for VBS= 1Vpp ± 0.1Vpp Burst = 300mVpp ± 70mVpp
2.5.2	CVBS EE level	REC SECAM Colour bar 1Vpp AV 1 pin20	Oscilloscope	AV 1 pin19	None	Magenta bar =210mVpp ± 20mVpp
2.5.3	FM REC level	REC without signal	Oscilloscope	TY008 (emitteur)	None	Check for 230mVpp

3. Electrical adjustments - Réglages éléctrique - Elektrische Einstellungen - Regolazioni elettriche - Ajustes eléctricos

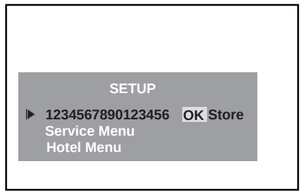
3.1. Test points and adjustement overview - Emplacement des points test et des réglages Lage der Messpunkte und Einsteller - punti test e visione d'insieme delle regolazioni - Punto de prueba y emplazamientos de los ajustes

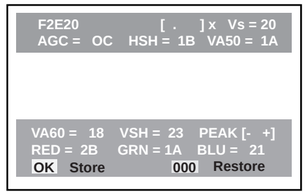


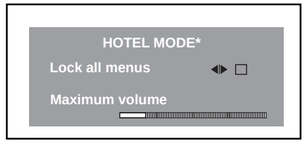


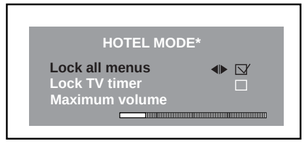
U G2 / cutoff	SCREEN	Peak white pattern. + + = 50%	highest output CRT V Collector: TT52,TT62,TT72	Adjust Screen voltage VG2 120V +/- 5V: 14" 145V +/- 5V : 20" & 21" B G RED Cutoff level GND
FOCUS	LL05	= 0% = 100% Test pattern (standard values)		Sharp picture
MAIN **SYSTEM VOLTAGE** **+UB**	PP01	+ = 50% Colour-Bar Test pattern W = 100% Mire de barres couleur blanc = 100% Farbbalken W = 100% Monoscopio delle barre colorate bianco = 100% Mira en color blanco = 100% AV1	P1 DP 80 +UB CP80 V	14" : 105 V +/- 1V 20" - 21" : 115.5 V +/- 1V

ALIGNEMENT PROCEDURE - PROCESSUS DE REGLAGES - ABGLEICH - PROCEDURA REGOLAZIONI - PROCEDIMIENTO DE ALINEACION









SET-UP

1234567890123456

The SETUP line is an 16-digit number that corresponds to the characteristics of the unit . All the 16-digits must be entered before saving.
See opposite the description of each digit.

La ligne SETUP est un nombre de 16 chiffres correspondant aux caract ristiques de l appareil. Il faut absolument entrer les 16 chiffres avant de m moriser.
Voir ci-contre la signification de chaque digit.

Die Zeiller SETUP ist eine 16-stellige Zahl, mit der die Ger teeigenschalfen beschrieeben werden. Alle 16 Stellen m ssen vor dem Abspchern eingegeben werden.
Ein Tabelle der Ger te eigenschaften und der dazugeh rigen Ziffern finden Sie im Anhang.

Il numero di 16 cifre del "SETUP line" corrisponde alle caratteristiche dell'apparecchio. La memorizzazione dei nuovi valori di Setup possibile dopo l'inserimento di tutte le 16 cifre. Vedi nella a pagina seguente il significato di ogni digit.

"SETUP line" es un n mero de 16 d gitos correspondientes a las caracter sticas del aparato. Es necesario introducir los 16 antes de memorizar. Ver en la p gina opuesta la descripci n de cada d gito.

Service Menu

F2E20
1st menu line :
1ère ligne du menu :
Menüzeile :
1° riga menu :
1ª línea del menú :
Software code

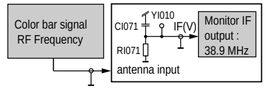
[.] x

AFC Status display - Visualise l'état de AFC
AFC Status Anzeige- Stato display AFC
Estado del CAF .
Compare : IF frequency/IF centre freq. Fo.

Display	AFC Status
< x. >	IF < Fo.
x< . >	
< . x>	IF > Fo.
< . >x	

AGC
- Minimum noise- Minimum de bruit
- Minimum Ranschen - Rumore minimo
- Minimo ruido

ONE TUNER MODELS :

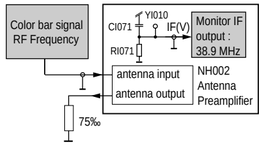


BGLL' - BGDKK' MODELS : 203.25MHZ, CH09 / BG - 3 mV

I MODELS : 215.25MHZ, CH09 / I - 3 mV

- Set AGC to 00
- Adjust AGC for - 8dB attenuation from the maximum IF output level

TWO TUNER MODELS :



BGLL' - BGDKK' MODELS : 203.25MHZ, CH09 / BG - 3 mV

I MODELS : 215.25MHZ, CH09 / I - 3 mV

- Set AGC to 00
- Adjust AGC for -10dB attenuation from the maximum IF output level

Service Menu

GEOMETRY

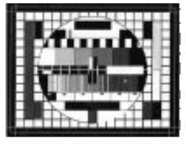
Test Bar pattern used : 4/3 with a geometric circle.
Mire utilisée : 4/3 avec un cercle de géométrie.
Benötigtes Testbild : 4/3 mit geometrischem Kreis.
Formato Testo utilizzato :4/3 con cerchio geometrico
Mira utilizada : 4/3 con circulo geometrico

HSH		
VA 50		50 Hz
VA 60		60 Hz
VSH		

Default Values

HSH : 20H
VA50 : 20H
VA60 : 20H
VSH : 20H

overscan V=107% - H=107%



Service Menu

VIDEO

Perform the G2 and the Focus settings beforehand.
Effectuez au préalable les réglages de G2 et de focus.
Stellen Sie zuvor G2 und Focus ein.
Effettuare innanzitutto le regolazioni G2 e del Fuoco
Efectuar previamente los ajustes G2 y "Focus".

RED*		+ + = 50%
GRN*		Grey scale test pattern white=100%
BLU*		white, weiß, blanc
PEAK		PEAK WHITE ADJUSTMENT + + = 50%
	CRT Pin 6,8,11	
	Oscillo. or colorimeter	

Sets	Nits	Vpp
14"	550	70
20"	490	-
21"	490	-

Notes :
* Adjust separate for PAL / SECAM and NTSC/AV
* R gler s par ment pour PAL / SECAM et NTSC/AV
* Den Abgleich der Videowerte f r PAL, SECAM, NTSC/AV getrennt durchf hren.
* Regolare separatamente in PAL, SECAM, NTSC/AV.
* Realice los ajustes en PAL, SECAM, NTSC/AV por separado.

Default Values

RED : 20H
GRN : 21H
BLU : 29H

HOTEL MODE

Lock all menus **Verrou tous menus** **Alle Menüs** **Blocco menu sommario** **Bloqueo menús**	☑ Lock all menus and display the Lock TV timer line. Verrouille tous les menus et affiche la ligne Verrou menu "R VEIL" Alle Men s gesperrt und Anzeige der TV-Timersperre Blocca tutti i menu e vizualizza la riga TV timer Bloquea todos los men s y muestra la l nea para bloquear el despertador. ☐ Unlock all menus. D verrouille tous les menus. Ensperren alle Men s Disttivazione blocco Desbloquea todos los men s
Lock TV timer **Verrou menu RÉVEIL** **TV-Timer Sperre** **Blocca sveglia TV** **Bloqu. despertador**	☑ Enable the Lock TV timer Validation du verrou menu R VEIL **Sperre aktiv** TV Timer Enable Lock TV timer Valida el bloqueo del despertador ☐ Disable the Lock TV timer D sactive la ligne Verrou menu R VEIL Sperre gel scht TV Timer Abilito le funzione TV timer Desactiva el bloqueo del despertador
Maximum volume **Volume maximum** **Max. Lautstärke** **Volume massimo** **Volumen máximo**	The hotel mode ("Maximum volume") is used to keep the volume down and allow adjustments to the picture only. Le mode hotel (ligne "Volume maximum") permet de limiter le volume et d'avoir acc s seulement aux r glages image. Der Hotel-Modus ("Max. Lautst rke") wird verwendet, um die Lautst rke zu begrenzen und um Einstellungen nur am Bild zu erlauben. Il modo hotel ("Volumo massimo") consente di bloccare il volume e di accedere alla sola regolazione dell' immagine. La funzione hotel ("volume massimo") Consente di limitare il volume massimo e di accedere alla sola regolazione dell' immagine

** Select the language in the preferences menu.*
** Sélectionner la langue dans le menu préférences*
** Wählen Sie eine Sprache im Menü " Preferenzen"*
** Selezionare la lingua nel menu di preferenza*
** Idioma seleccionado en el menú preferencias.*

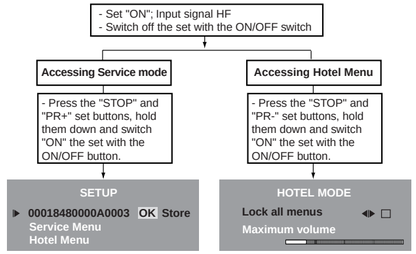
Table DIGIT

DIGIT	DESCRIPTION	DATA (HEX)
1	Norm Group	0 - BG + LL' 1 - BG + DKK' 2 - BG only 3 - I only 4 - BG + LL' + I + DKK'
2	RF Norm	0 - L 1 - BG 2 - I 3 - DK
3 & 4	Language Group / Languages	**Digital 3,4** Western Europe 00-English 01-France 02-German 03-Italian 04-Spain 05-Deutsch Eastern Europe 10-English 11-Czech 12-Polish 13-Hungarian 14-Russian 15-Greek
5 & 6	Servo Type 1	Digit 5 | Digit 6 Bits 7 6 5 4 | 3 2 1 0 **Digit 5** Bit 7= 1: Auto Play Enable Bit 6 - Default= 0 Bit 5 - Default= 0 Bit 4 = 1:HIFI (SP+LP) Enable **Digit 6** Bit 3 = 1: Long Play = 0: Std.Play Bit 2 - Video Heads:**c** =1:Secam =0:PAL Bit 1 - Video Heads:**b** =1: 4-Head =0: 2Head Bit 0 - Video Heads:**a** c b a | Video Heads Configuration 0 0 0 | 2 Head PAL 0 1 0 | 4 Head PAL 1 0 0 | 2 Head SEC.MULTI 1 1 1 | 4 Head SEC.MULTI
7 & 8	Servo Type 2	Digit 7 | Digit 8 Bits 7 6 5 4 | 3 2 1 0 **Digit 7** Bit 7 =1 : Index Search Enable Bits 6...0 = X

DIGIT	DESCRIPTION	DATA (HEX)
9 & 10	Scart / Cinch	Digit 9 | Digit 10 Bits 7 6 5 4 | 3 2 1 0 **Digit 9** Bits 7.....0 = X
11 & 12	Special Function 1	Digit 11 | Digit 12 Bits 7 6 5 4 | 3 2 1 0 **Digit 11** Bits 7 = 1 : CRT 20/21" = 0 : CRT 14" **Digit 12** Bit 3 = 1 : Auto Clock Enable Bit 1 =1 : NTSC PB Enable
13 & 14	Special function 2	**Digit 13 - Digit 14** -
15 & 16	Country	00 - UK 01 - EIRE 02 - South Africa 03 - France 04 - Germany 05 - Italy 06 - Spain 07 - Portugal 08 - Austria 09 - Switzerland 0A - Belgium 0B - Luxembourg 0C - Netherlands 0D - Denmark 0E - Sweden 0F - Norway 10 - Finland 11 - Poland 12 - Czech Rep 13 - Slovack Rep 14 - Hungary 15 - Russia 16 - Greece 17 - Turkey 18 - Others 19 - FF : Not used

SERVICE-MODE GB

1- Accessing Service Mode - Accessing Hotel mode


- Set "ON"; Input signal HF
- Switch off the set with the ON/OFF switch
Accessing Service mode
Accessing Hotel Menu
- Press the "STOP" and "PR+" set buttons, hold them down and switch "ON" the set with the ON/OFF button.
- Press the "STOP" and "PR-" set buttons, hold them down and switch "ON" the set with the ON/OFF button.
SETUP
00018480000A0003 OK Store
Service Menu
Hotel Menu
HOTEL MODE
Lock all menus
Maximum volume

** The "Mode Hotel" language depends on the selected country in the preferences menu.*

2. SETUP Menu

2.1 Navigation
To navigate around the **SETUP** Menu press the magena «**TEXT**» button on the RCU, to step through and to select the lines in the following order :
... Line **SETUP** ➪ **Service Menu** ➪ **Hotel Menu** ➪ Line **SETUP...**

2.2 «Service Menu» line or «Hotel Menu» line enable
After the selection of the line press the «**OK**» button on the RCU; the correspondent menu will be displayed on the television.

2.3 SETUP line
The **SETUP** line is an sixteen-digit number that corresponds to the characteristics of the unit .
All the sixteen-digits must be entered before saving.
- Press the ⟨/⟩ buttons on the RCU to select the digit.
- Press the ⩓/⩔ buttons to make adjustment values.
Please refer to page 3 to the data enter in the **SETUP** line.

3. Service Menu

3.1 Adjustments
In «Service Menu» the adjustment values are displayed in a hexadecimal form to the right of the function name (AGC,HSH....)

3.2 Adjustment selection - Value
- Press the ⩓/⩔ buttons on the RCU to select the adjustment .
- Press the ⟨/⟩ buttons to make adjustment values.

3.3. Storing
- Press the «**OK**» button on the RCU to store the adjustment value.

3.4. Retrieval of values stored :Restore
- The value stored is called up and can thus be «retrieved» if the the value was modified during adjustment : press the «**0000**» button on the RCU.

4. Hotel Menu

4.1 Accessing
- To access directly and exclusively the Hotel menu follows the process described in §1.
In this case when you press the button «**EXIT**» on the RCU you definitivly leave the Hotel Mode.
- To access the **Hotel** menu or the adjustments use the **SETUP** menu.
.

4.2 Navigation
- To navigate around the Hotel Menu press the ⩓/⩔buttons on the RCU.

4.3 Enable
- To enable a line check (tick) ☑ a box in pressing the button ⟨/⟩ on the RCU.

4.4 Lock TV timer
- Enable the «**Lock all menus**» line :
the «**Lock TV timer**» line is displayed.

4.5 «Maximum volume» adjust
- Press the ⟨/⟩ to modify the adjustment bargraph.

5. Temporary exit from service mode

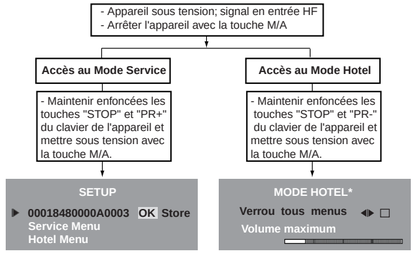
- Press «**EXIT**» on the RCU.
Every use menu can be accessed via **MENU** button.
- «**SETUP**» menu can be re-entrered via magenta button .

6. Exitig from service mode

- To leave the service mode, switch the unit into the standby mode with the RCU or switching off the unit by pressing the **ON/OFF**. switch.the RCU or switching off the unit by pressing the **ON/OFF**. switch.

MODE SERVICE F

1- Accès au Mode Service - Accès au Mode Hotel


- Appareil sous tension; signal en entrée HF
- Arrêter l'appareil avec la touche M/A
Accès au Mode Service
Accès au Mode Hotel
- Maintenir enfoncées les touches "STOP" et "PR+" du clavier de l'appareil et mettre sous tension avec la touche M/A.
- Maintenir enfoncées les touches "STOP" et "PR-" du clavier de l'appareil et mettre sous tension avec la touche M/A.
SETUP
00018480000A0003 OK Store
Service Menu
Hotel Menu
MODE HOTEL*
Verrou tous menus
Volume maximum

** La langue du menu "Mode Hotel" dépend du pays sélectionné dans le menu "PREFERENCES"*

2. Menu SETUP

2.1 Déplacement
Dans le menu **SETUP**, de courtes pressions sur la touche magenta «**TEXT**» de la télécommande permettent la sélection d'une ligne dans l'ordre suivant :
... Ligne **SETUP** ➪ **Service Menu** ➪ **Hotel Menu** ➪ Ligne **SETUP...**

2.2 Validation d'une ligne «Service Menu» ou «Hotel Menu»
Après la sélection de la ligne appuyer sur la touche «**OK**» de la télécommande; le menu correspondant apparaît.

2.3 Ligne SETUP
La ligne **SETUP** est un nombre de seize chiffres correspondant aux caractéristiques de l'appareil.
Il faut absolument entrer les seize chiffres avant de mémoriser.
- Appuyer sur la touche ⟨/⟩ de la télécommande pour sélectionner un digit.
- Agir sur les touches ⩓/⩔ de la télécommande pour modifier sa valeur
Voir page 3 pour l'entrée des données dans la ligne **SETUP**.

3. Service Menu

3.1 Réglages
En «Service Menu» les valeurs des réglages sont indiquées sous forme hexadécimale à droite de la position à régler (AGC,HSH....)

3.2 Sélection d'un réglage - Valeur
- Agir sur la touche ⩓/⩔de la télécommande pour sélectionner un réglage.
- Agir sur la touche ⟨/⟩de la télécommande pour modifier la valeur.

3.3. Mémorisation : store
-Appuyer sur la touche «**OK**» de la télécommande pour la mémorisation des valeurs de réglages.

3.4. Rappel des valeurs mémorisées :Restore
- La valeur d'un réglage mémorisé peut être rappelée et ainsi être retrouvée si elle a été modifiée en cours de réglage: appuyer sur la touche «**0000**» de la télécommande.

4. Menu Hotel

4.1 Accès
- Un accès direct et exclusif au menu hotel s'effectue en suivant la procédure décrite au §1.
Dans ce cas l'appui sur la touche «**EXIT**» de la télécommande sort définitivement du mode hotel.
- Un accès au menu hotel ou aux réglages s'effectue via le menu **SETUP**
.

4.2 Déplacement
- Agir sur les touches ⩓/⩔ pour se déplacer sur les lignes du menu.

4.3 Validation
- Pour valider une ligne cocher ☑ la case correspondante en appuyant sur la touche ⟨/⟩ de la télécommande.

4.4 Verrou menu RÉVEIL
- Valider la ligne «Verrou tous menus»:
la ligne «Verrou menu **RÉVEIL**» s'affiche.

4.5 Réglage «Volume maximum»
- Agir sur les touches ⟨/⟩ pour modifier le bargraphe de réglage.

5. Sortie temporaire du mode service

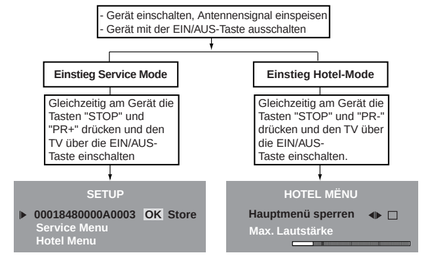
- Utiliser la touche «**EXIT**» de la télécommande.
Le menu utilisateur est accessible via la touche «**MENU**».
- Pour entrer à nouveau dans le menu «**SETUP**» utiliser la touche magenta «**TEXT**».

6. Sortie du mode service

- Pour sortir du mode service commuter l'appareil en position de veille ou le mettre hors tension par l'interrupteur secteur.

SERVICE-MODE D

1- Einstieg in den Service-Mode - Einstieg in den Hotel-Mode


- Gerät einschalten, Antennensignal einspeisen
- Gerät mit der EIN/AUS-Taste ausschalten
Einstieg Service Mode
Einstieg Hotel-Mode
Gleichzeitig am Gerät die Tasten "STOP" und "PR+" drücken und den TV über die EIN/AUS-Taste einschalten
Gleichzeitig am Gerät die Tasten "STOP" und "PR-" drücken und den TV über die EIN/AUS-Taste einschalten.
SETUP
00018480000A0003 OK Store
Service Menu
Hotel Menu
HOTEL MENU
Hauptmenü sperren
Max. Lautstärke

** Die Sprache im "Hotel-Mode" ist von dem im Menü "Preferenzen" eingestellten Land abhängig*

2. SETUP Menü

2.1 Navigation
Zum Navigieren im **SETUP**-Menü die magentafarbige **"TEXT"**-Taste auf der Fernbedienung drücken und gewünschte Zeile (**SETUP** ➪ **Service Menu** ➪ **Hotel Menu** ➪ **SETUP**) wählen.

2.2 Aktivierung der Zeilen "Service-Menu" und "Hotel-Menu"
Zur Anwahl der gewünschten Zeile die **"OK"**-Taste auf der Fernbedienung drücken. Das jeweilige Menü erscheint auf dem Bildschirm.

2.3 Zeile SETUP
In der **SETUP**-Zeile wird eine 16-stellige Zahl dargestellt, die die Eigenschaften des Gerätes beschreibt. Vor dem Abspeichern müssen alle 16 Zahlen eingegeben worden sein.
- Zur Auswahl einer Stelle (Digit) die ⟨/⟩ -Tasten drücken.
- Zum Verändern des Wertes einer Stelle (Digit) die ⩓/⩔ Tasten drücken.
Bitte informieren Sie sich auf Seite 3 über die korrekten Einträge in der **SETUP**-Zeile.

3. Service Menü

3.1 Anzeige der Abgleichwerte
Im «**Service-Menü**» erfolgt die Anzeige der Abgleichwerte hexadezimal rechts neben der Anzeige der Abgleichfunktion (AGC, HSH...).

3.2 Wahl der Funktion - Abgleich
- Zur Anwahl der gewünschten Funktion die ⩓/⩔ Tasten auf der Fernbedienung drücken.
- Zum Abgleich der Funktion die ⟨/⟩ Tasten auf der Fernbedienung drücken.

3.3. Speichern
Zum Speichern des eingestellten Wertes die **"OK"**-Taste auf der Fernbedienung drücken.

3.4. Aufruf von bereits gespeicherten Werten: RESTORE
Ein bereits abgespeicherter Wert kann, wenn die Einstellung durch weiteren Abgleich verändert wurde, wieder aufgerufen werden, indem die **"0000"** -Taste auf der Fernbedienung gedrückt wird**.**

4. Hotel-Menü

4.1 Einstieg
Der Einstieg in das Hotel-Menü kann direkt, wie in Kap. 1 beschrieben, oder über den Service-Mode erfolgen. Erfolgte der Einstieg direkt, kann das Menü durch Drücken der **"EXIT"**-Taste auf der Fernbedienung verlassen werden.

4.2 Navigation
Zum Navigieren im Hotel-Menü dienen die ⩓/⩔ -Tasten auf Fernbedienung.

4.3 Aktivieren einer Funktion
Zum Einschalten einer Funktion ist die jeweilige Check-Box ☑ mit den ⟨/⟩ -Tasten der Fernbedienung aktivieren.

4.4 TV-Timer-Sperre
Aktivieren Sie **"Hauptmenü sperren"** erscheint die Zeile **"TV-Timer sperren"**.

4.5 Maximale Lautstärke
Zum Einstellen der Lautstärkebegrenzung kann die maximale Lautstärke mit den ⟨/⟩ -Tasten eingestellt werden.

5. Vorübergehendes Verlassen des Service-Modes

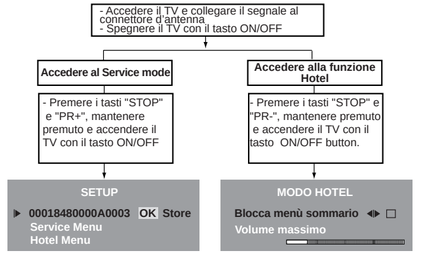
- Zum vorübergehenden Verlassen des Service-Modes drücken Sie die **"EXIT"**-Taste auf der Fernbedienung. Über die **"MENU"**-Taste können dann alle Benutzer-Menüs erreicht werden.
- Um den Service-Mode wieder zu aktivieren, die magenta **"TEXT"**-Taste drücken.

6. Exitig from service mode

Um den Service-Mode endgültig zu verlassen, schalten Sie das Gerät mit der Fernbedienung in Standby oder mit dem EIN/AUS-Schalter am Gerät ab.

SERVICE-MODE I

1- Accedere al Service Mode e alla funzione Hotel


- Accedere il TV e collegare il segnale al connettore d'antenna
- Spegnere il TV con il tasto ON/OFF
Accedere al Service mode
Accedere alla funzione Hotel
- Premere i tasti "STOP" e "PR+", mantenere premuto e accendere il TV con il tasto ON/OFF
- Premere i tasti "STOP" e "PR-", mantenere premuto e accendere il TV con il tasto ON/OFF button.
SETUP
00018480000A0003 OK Store
Service Menu
Hotel Menu
MODO HOTEL
Blocca menù sommario
Volume massimo

** La lingua prescella per la funzione Hotel viene selezionata dal menu di preferenza.*

2. Menu SETUP

2.1 Navigazione
Per navigare nel menu **SETUP** premere il tasto magenta «**TEXT**» del telecomando,per sportarsi e selezionare le righe nel seguente ordine :
SETUP ➪ **Service Menu** ➪ **Hotel Menu** ➪ **SETUP...**

2.2 Abilitazione **«Service Menu»** o **«Hotel Menu»**
dopo aver selezionato la riga, premere il tasto «**OK**» del telecomando; il menu corrispondente sarà visualizzato sul TV.

2.3 SETUP
Il numero di 16 cifre del Service **SETUP** corrisponde alle caratteristiche dell' apparecchio. Tutte le 16 cifre devono essere inserite prima di memorizzare.
- Premere i tasti ⟨/⟩ del telecomando per selezionare il digit.
- Premere i tasti ⩓/⩔ per cambire valore di regolazioni.
Fare riferimento alla pagina 3 per inserire i correti valori di **SETUP**.

3. Service Menu

3.1 Regolazioni
Nel «Service Menu» le regolazioni sono visualizzate in valore esadecimale alla destra del nome della funzione (AGC,HSH....)

3.2 Valori di Regolazione
- Premere i tasti ⩓/⩔ del telecomando per selezionare le regolazioni
- Premere i tasti ⟨/⟩ per effettuare le regolazioni.

3.3. Memorizzazione
- Premere il tasto «**OK**» del telecomando per memorizzare i valori di regolazione.

3.4. Recupero dei dati memorizzati : Rimemorizzazione
- I valori memorizzati possono essere richiamati ed essere recuperati in caso di modifica effettuata durante le regolazioni: premere il tasto «**0000**» del telecomando.

4. Menu Hotel

4.1 Accesso
- Per accedere direttamente al menu hotel, seguire le istruzioni riportate nel paragrafe 1.
Quando si preme il tasto «**EXIT**» del telecomando, si esce definitivamente dal Menu Hotel.
- Per accedere al menu **Hotel** o alle regolazioni, utilizzare il menu **SETUP** .

4.2 Navigazione
- Per navigare al menu Hotel, premere i tasti ⩓/⩔ del telecomando.

4.3 Abilitazione
- Per abilitare il Menu Hotel, visualizzare la casella (tick) ☑ con i tasti ⟨/⟩

4.4 Blocco del TV Timer
- Abilitare la riga Blocco di tutti i menu:
il «**Blocco TV timer**» viene visualizzato

4.5 Regolazioni del «volume Massimo»
- Premere i tasti ⟨/⟩ per modificare la barra grafica della regolazione volume.

5. Uscita temporanea dal Service Mode

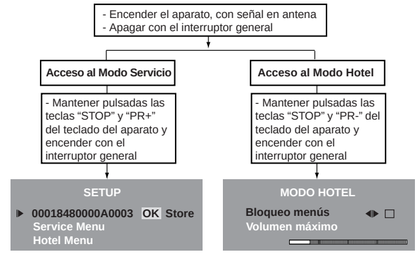
- Premere il tasto «**EXIT**» del telecomando.
Si può accedere a qualsiasi menu tramite il tasto **MENU**.
- Si può riaccedere al menu«**SETUP**» con il tasto magenta.

6. Uscita dal service mode

- Per uscire dal Service Mode, posizionare il TV nel modo standby con il telecomando oppure spegnere il TV premendo il tasto **ON/OFF**,
poi accendere.

MODO-SERVICIO E

1- Acceso al Modo Servicio – Acceso al Modo Hotel


- Encender el aparato, con señal en antena
- Apagar con el interruptor general
Acceso al Modo Servicio
Acceso al Modo Hotel
- Mantener pulsadas las teclas "STOP" y "PR+" del teclado del aparato y encender con el interruptor general
- Mantener pulsadas las teclas "STOP" y "PR-" del teclado del aparato y encender con el interruptor general
SETUP
00018480000A0003 OK Store
Service Menu
Hotel Menu
MODO HOTEL
Bloqueo menús
Volumen máximo

** El idioma del "Modo Hotel" depende del país seleccionado en el "menú preferencias*

2. Menú SETUP (CONFIGURACIÓN)

2.1 Navegación
Para navegar por el menú CONFIGURACIÓN, pulsaciones sucesivas en la tecla morada "**TEXT**" del telemando, permiten la selección de las líneas en el orden siguiente :
... Línea **SETUP** ➪ **Service Menu** ➪ **Hotel Menu** ➪ Línea **SETUP**...

2.2 Validación de las líneas **"Service Menu"** y **"Modo Hotel"**
Después de la selección de la línea, pulsar la tecla **"OK"** del telemando; El menú correspondiente saldrá en la pantalla.

2.3 Línea SETUP (configuración)
La línea SETUP está compuesta por 16 dígitos que corresponden a las características del aparato .Es imprescindible entrar los 16 dígitos antes de memorizar.
- Pulsar las teclas ⟨/⟩ del telemando para seleccionar el dígito.
- Pulsar las teclas ⩓/⩔para modificar los valores.
Ver la página 3 para introducir los datos correspondientes al aparato a configurar.

3. Menú Modo Servicio

3.1 Ajustes
En "Modo Servicio" los valores de los ajustes se indican en hexadecimal, a la derecha del nombre de la función (AGC,HSH....)

3.2 Selección de los ajustes - Valor
- Pulsar las teclas ⩓/⩔ del telemando para seleccionar el ajuste.
- Pulsar las teclas ⟨/⟩ para modificar los valores.

3.3. Memorizar los ajustes : Store
- Pulsar la tecla "OK" del telemando para almacenar los valores de los ajustes.

3.4. Recuperar los valores previos almacenados :Restore
- Se pueden recuperar los últimos valores memorizados, si mientras se están modificando los valores, se pulsa la tecla **"0000"** del telemando.

4. Menú Modo Hotel

4.1 Acceso
- Para acceder directa y exclusivamente al menú del Modo Hotel seguir el procedimiento descrito en el apartado 1. En éste caso cuando se pulsa la tecla **"EXIT"** del telemando se sale definitivamente del Modo Hotel.
- Para acceder al menú **HOTEL** o al de configuración use el menú **SETUP**

4.2 Navegación
- Para desplazarse dentro del menú Hotel pulse las teclas ⩓/⩔ del telemando.

4.3 Validación
- Para validar una línea con un recuadro para marcar ☑,pulsar las teclas ⟨/⟩ del telemando.

4.4 Bloqueo del Despertador
- Validar la línea **"Bloqueo menús"** :
la línea **"Bloqu. despertador"** aparece.

4.5 Ajuste del "volumen máximo"
- Pulsar las teclas ⟨/⟩para modificar la barra gráfica.

5. Salida temporal del Modo Servicio

- Pulsar la tecla **"EXIT"** del telemando.
Al menú normal de "usuario" se puede acceder con la tecla **MENU**.
- Para volver al menú **"SETUP"** pulsar la tecla morada

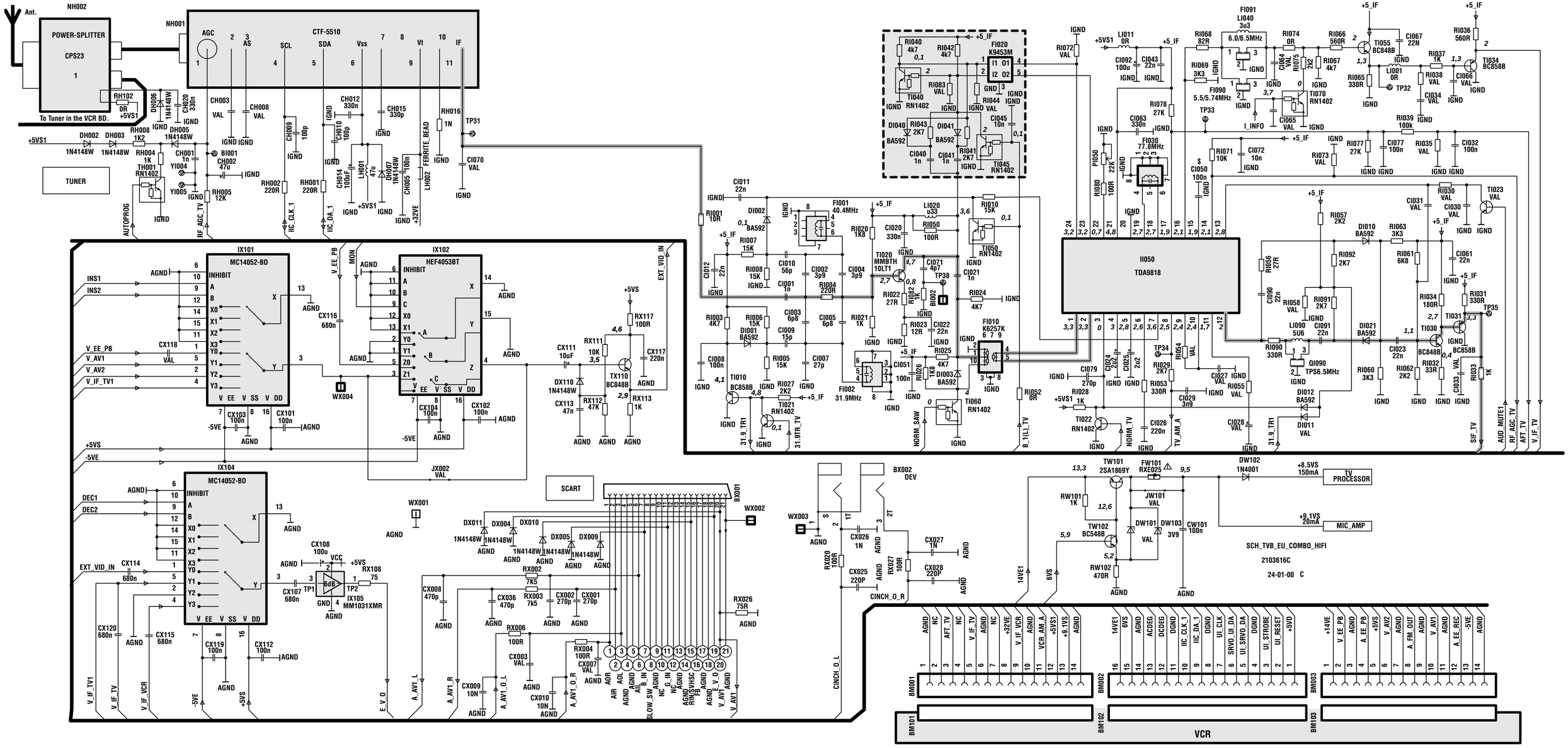
6. Salir del Modo Servicio

- Para salir del Modo Servicio, apagar con el telemando o apagar con el interruptor **ON/OFF.**

EUROCOMBO

EUROCOMBO 2	Setup Value	EUROCOMBO 2	Setup Value
14CB10C	11028880000A0004	C3610C	11028880000A0004
14CB15CT	11028880000A0004	C3610F	0001848000020003
14CB15FT	00018480000A0003	C3615UT	32008880000A0000
14CB25CT	11028880000A0004	C5110F	00018480000A0003
14CB25FT	00018480000A0003	FIZZY	0001848000020003
14CB25UT	32008880000A0000	FIZZY3	11028880000A0004
14CB26EN	40018480000A0003	KID	00018480001A0003
14CB26UN	40018480000A0003	KID3	11028880001A0004
14CD25CG	11028880000A0004	SC2014	00018480000A0003
14CD25FG	00018480000A0003	SC2021	00018E80000A0003
14CD25FT	00018480000A0003	TEKNO	40018480000A0003
20CB20C	11028880000A0004	TEKNO2	40018480000A0003
20CB25FT	00018480000A0003		
20CB25US	32008880000A0000		
20CB25UT	32008880000A0000		
21CB25FT	00018E80000A0003		
21CB26EN	40018E80000A0003		
21CB26UN	40018E80000A0003		
21CB27ES	40018480000A0003		
21CH22E	40011E80000A0003		
C36100	0001848000020003		

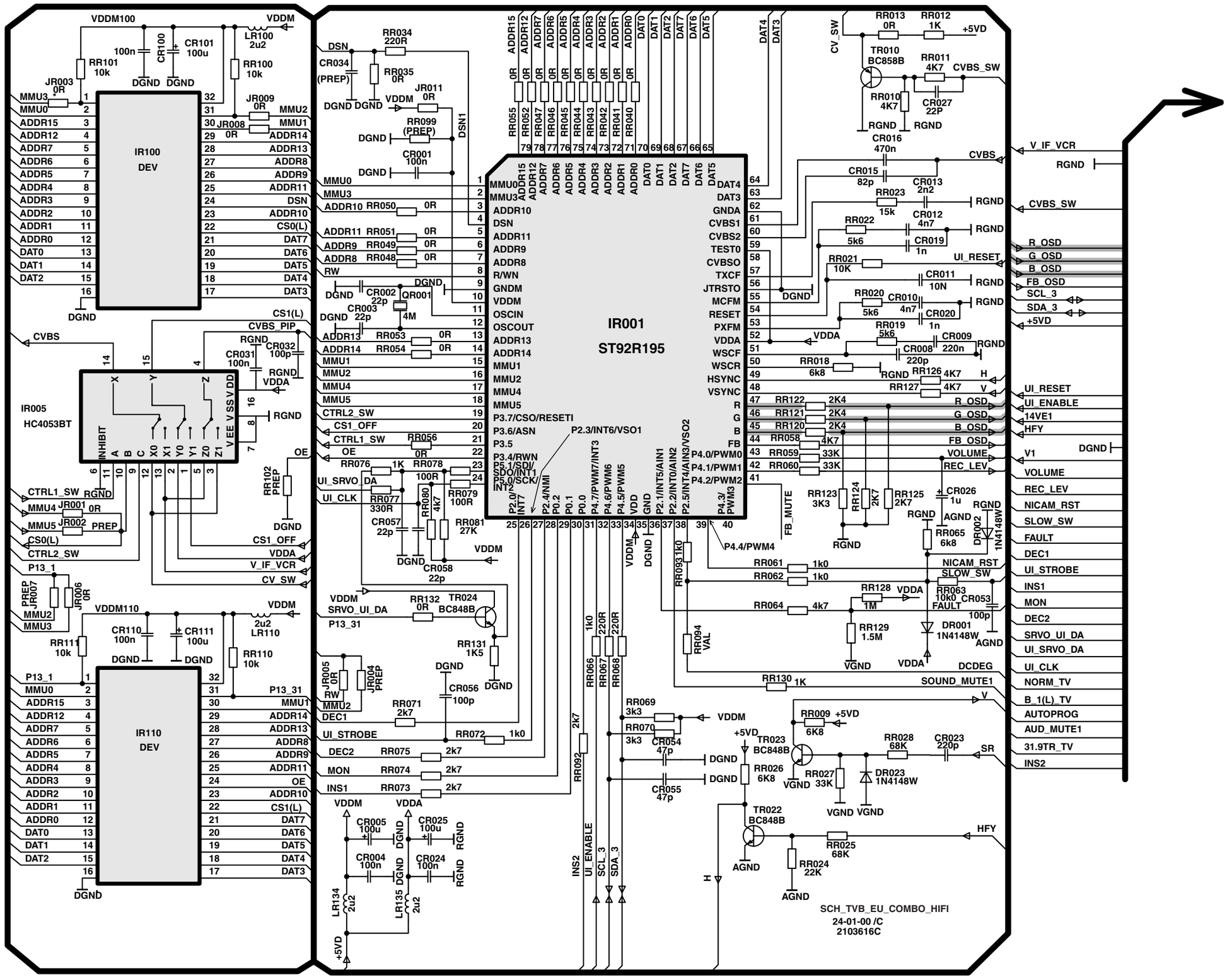
COMPLETE PCB DIAGRAM - SCHEMA PLATINE PRINCIPALE EQUIPEE - SCHEMA LEITERPLATTE KPL. - ESQUEMA PLATINA EQUIPADA - SCHEMA PIASTRA COMPLETA



EUROCOMBO 2
First issue 05 / 00

COMPLETE PCB DIAGRAM - SCHEMA PLATINE PRINCIPALE EQUIPEE - SCHEMA LEITERPLATTE KPL. - ESQUEMA PLATINA EQUIPADA - SCHEMA PIASTRA COMPLETA

POWER_SPITTER
NH002
NH001 CTT-5010
To Tuner in the VCR BD.
NH100
CTT-5010
FOR SINGLE TUNER APPLICATON
II020 STV8225 AM SIF
IR006 TMPA8700xxx
IV001 TDA8842
IX104 MC14052-BD
IX101 MC14052-BD
IX105 MM1031XMR
BX001 SCART
TV PROCESSOR
IFTV + CCTS
AM_SIF IC
MIC_AMP
TELETEXT
POWER SUPPLY
VCR
DEV
REMARKS :-
? USED FOR 1-TUNER
& USED FOR 2-TUNER
# USED FOR BGLL' STD
$ USED FOR BGDKK' STD
* USED FOR I STD
@ USED FOR TV GUIDE
LEGEND Ⓒ DIFFERENCES BETWEEN MINI NECK & NARROW NECK PICTURE TUBES
POSITION | MINI NECK | NARROW NECK
JT581 | ADD | DELETE
JT582 | DELETE | ADD
JT583 | DELETE | ADD
JT584 | ADD | DELETE
LEGEND Ⓑ DIFFERENCES BETWEEN 14" & 20" (CRT BOARD)
POSITION | 14" | 20"/21"
CT551/561/571 | 680PF | 220P/270P/270P
CT552/562/572 | 680PF | DELETE
DT51/61/71 | JUMPER | IN4148
DT52/62/72 | IN4148 | DELETE
RT55/65/75 | DELETE | RCFF 1K0
RT559/569/579 | DELETE | 47R0
TT51/61/71 | DELETE | BF422
2095574D



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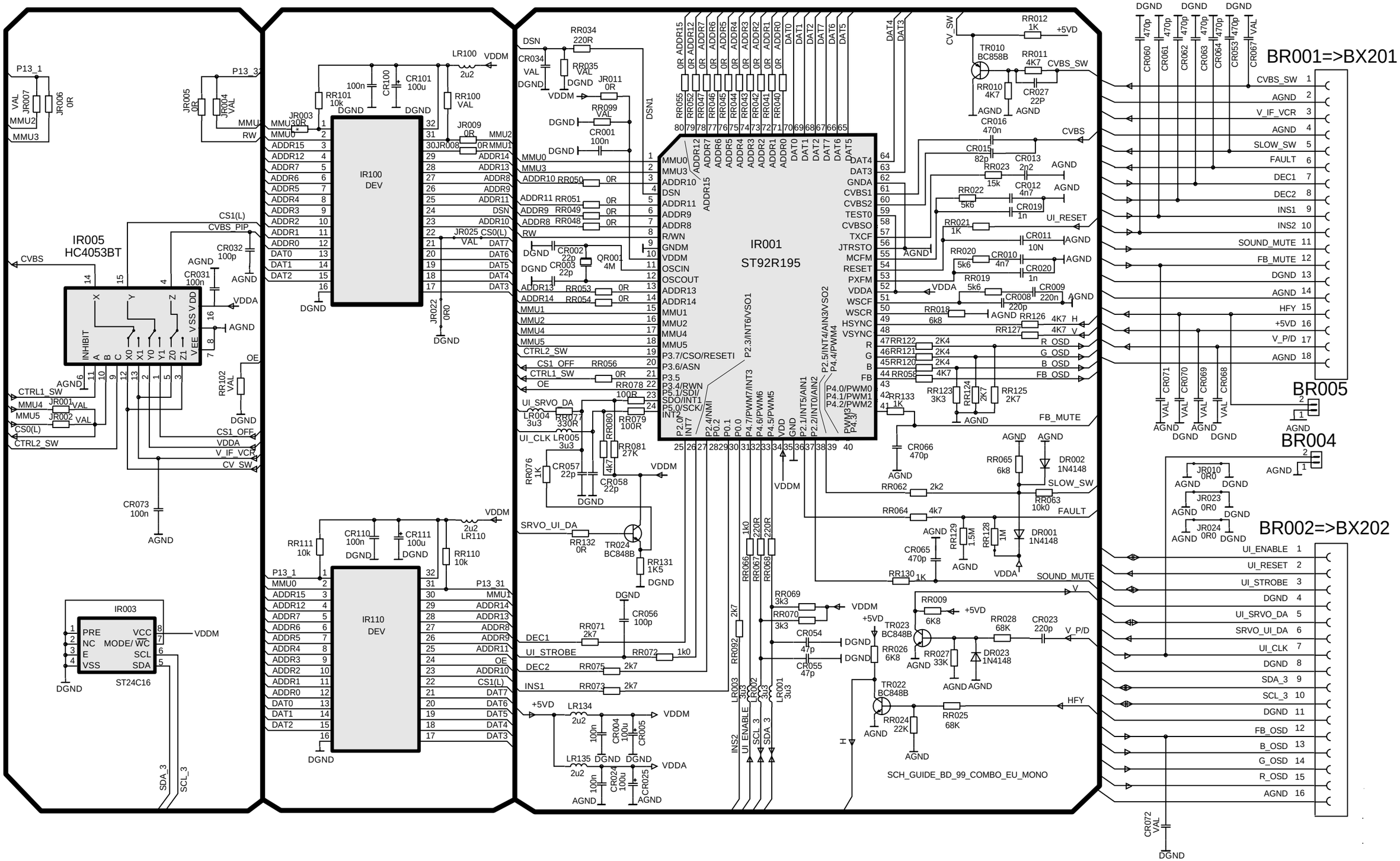
CONTROL MICROPROCESSOR - MICROPROCESSEUR DE COMMANDE - MIKROPROZESSOR - MICROPROCESSORE DEI COMANDI - MICROPROCESADOR DE LOS MANDOS



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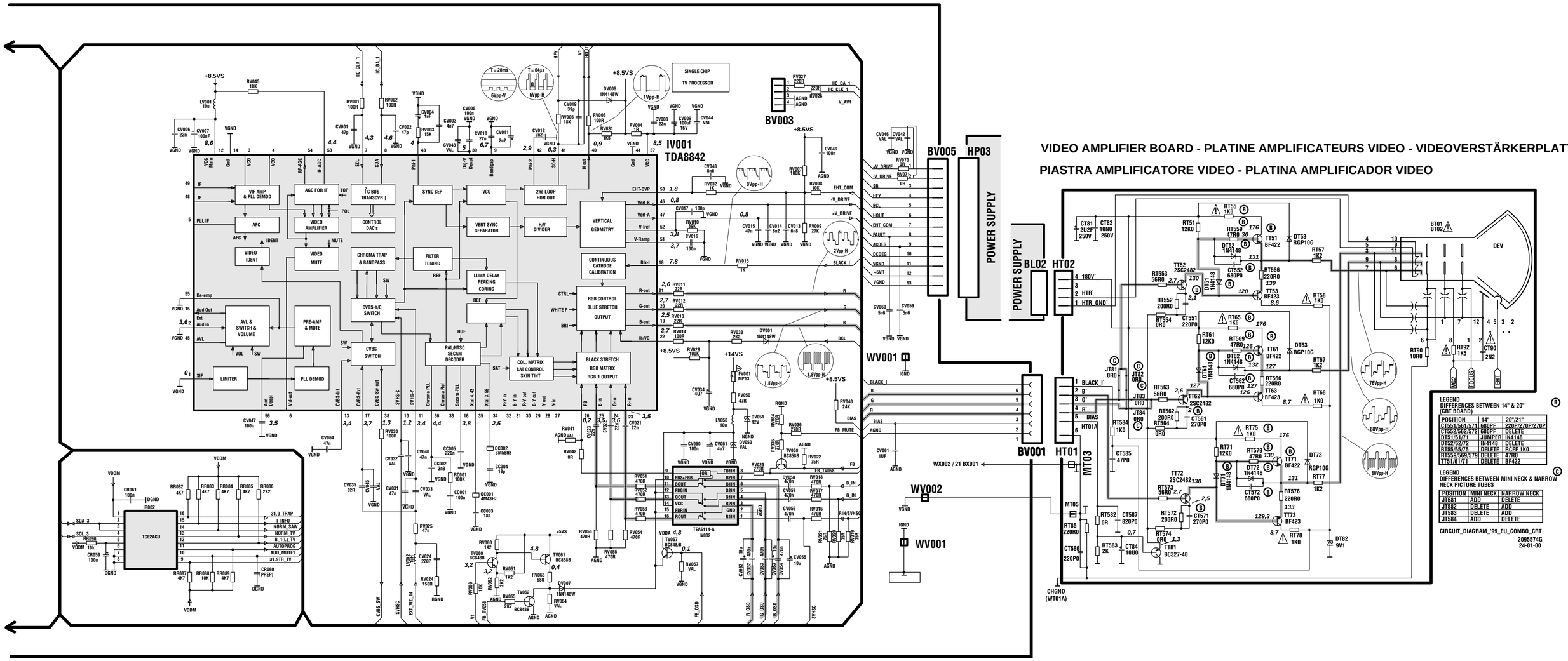
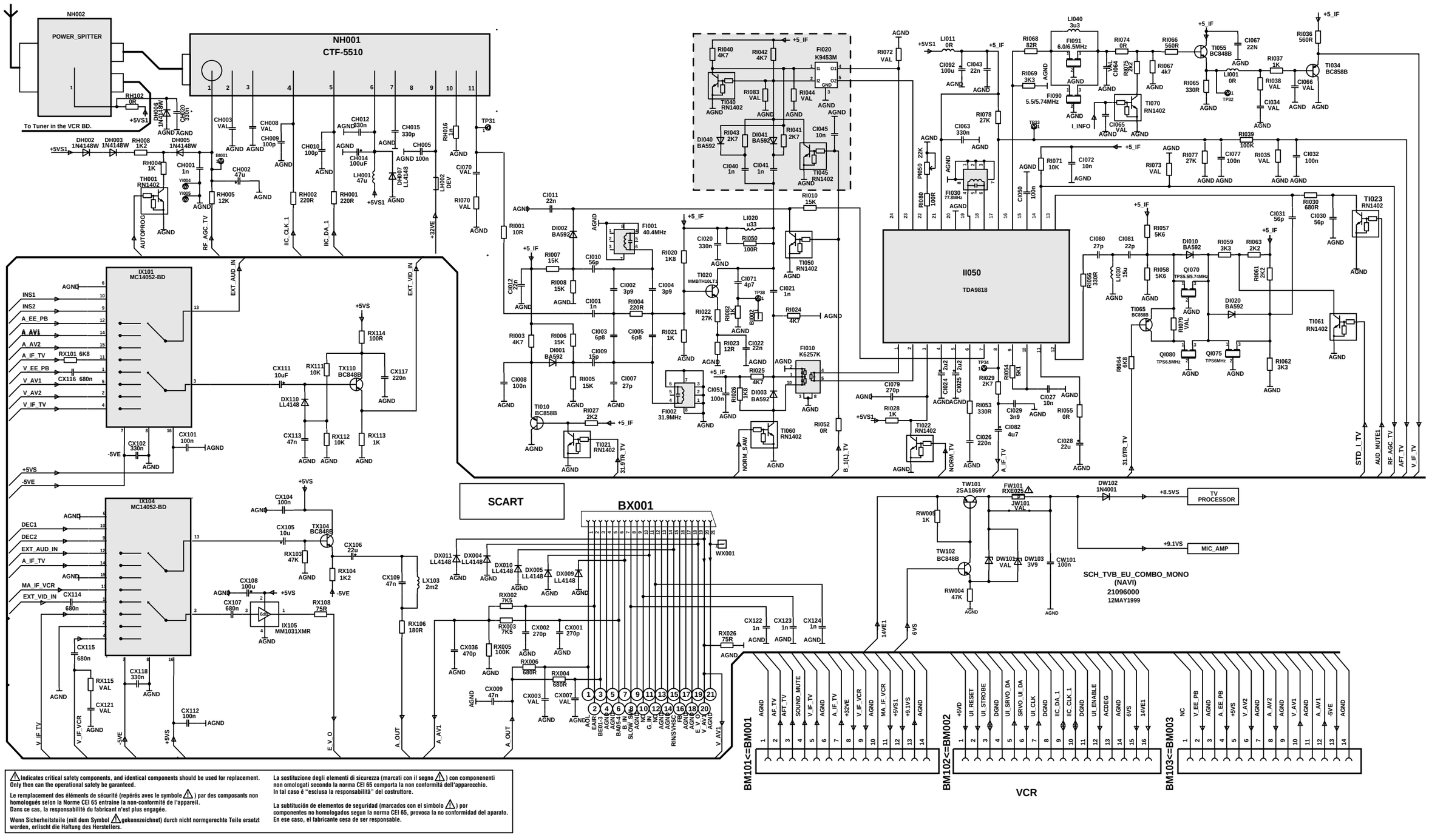
VIDEO SIGNAL PROCESSING - TRAITEMENT LUMINANCE CHROMINANCE - VIDEO SIGNALVERARBEITUNG - ELABORAZIONE VIDEO - TRATAMENTO VIDEO



VIDEO AMPLIFIER BOARD - PLATINE AMPLIFICATEURS VIDEO - VIDEOVERSTÄRKERPLATTE

PIASTRA AMPLIFICATORE VIDEO - PLATINA AMPLIFICADOR VIDEO

RF/FI/ SCART INTERFACE - HF/FI INTERFACE PERITELEVISION - HF/ZF/ SCART INTERFACE - RF/FI /PRESA PERITEL - RF/FI /EUROCONECTOR



⚠ Indicates critical safety components, and identical components should be used for replacement. Only then can the operational safety be garanteed.

Le remplacement des éléments de sécurité (repérés avec le symbole ⚠) par des composants non homologués selon la Norme CEI 65 entraine la non-conformité de l'appareil. Dans ce cas, la responsabilité du fabricant n'est plus engagée.

Wenn Sicherheitsteile (mit dem Symbol ⚠ gekennzeichnet) durch nicht normgerechte Teile ersetzt werden, erlischt die Haftung des Herstellers.

La sostituzione degli elementi di sicurezza (marcati con il segno ⚠) con componenenti non omologati secondo la norma CEI 65 comporta la non conformità dell'apparecchio. In tal caso é "esclusa la responsabilità" del costruttore.

La subtitución de elementos de seguridad (marcados con el simbolo ⚠) por componentes no homologados segun la norma CEI 65, provoca la no conformidad del aparato. En ese caso, el fabricante cesa de ser responsable.

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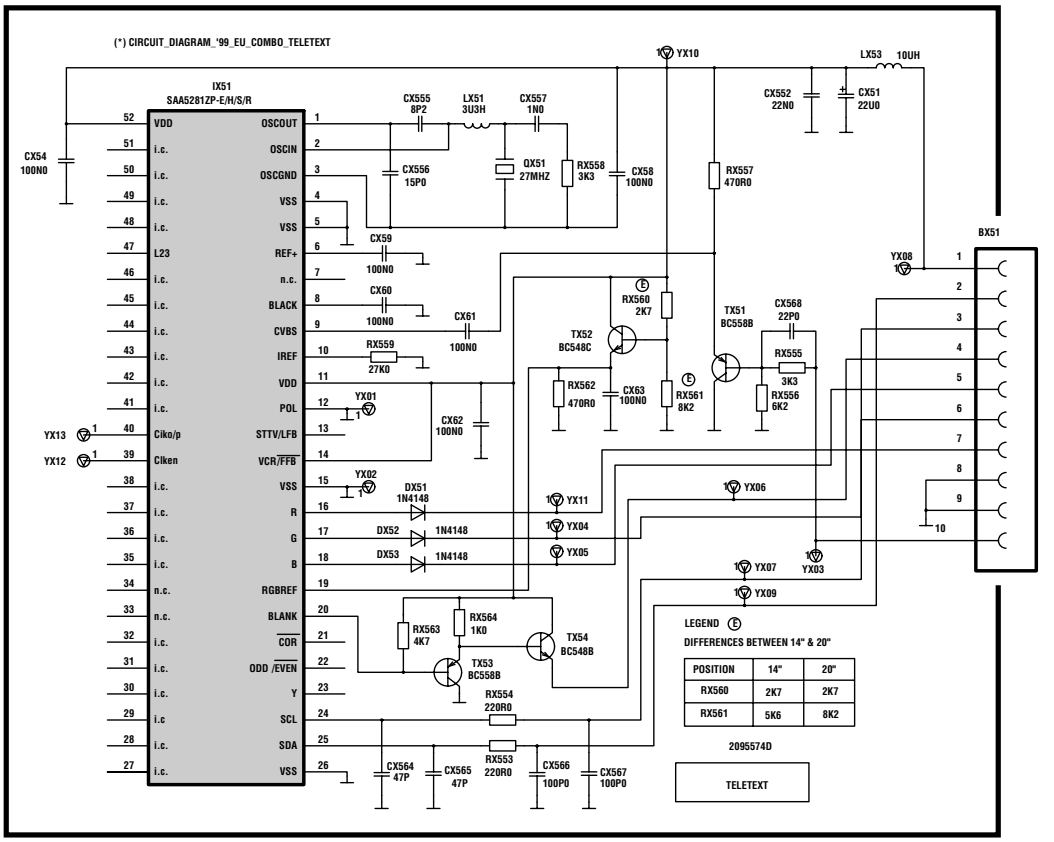
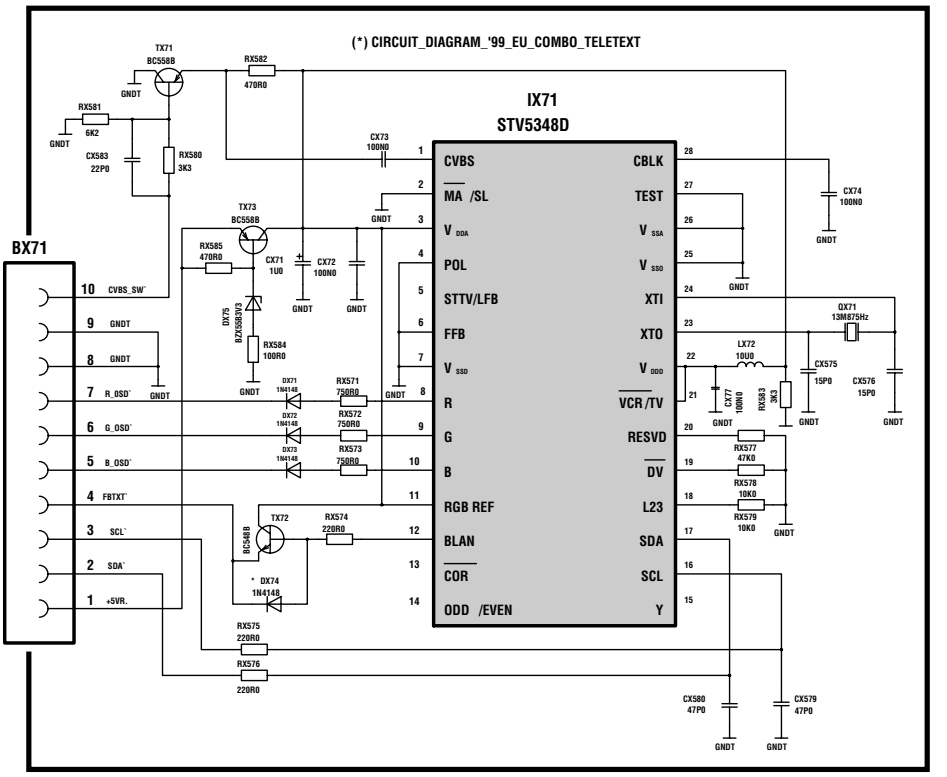
TELETEXT MODULE - MODULE TELETEXTE - VIDEOTEXT MODUL - MODULO TELEVIDEO - MÓDULO TELETEXTO

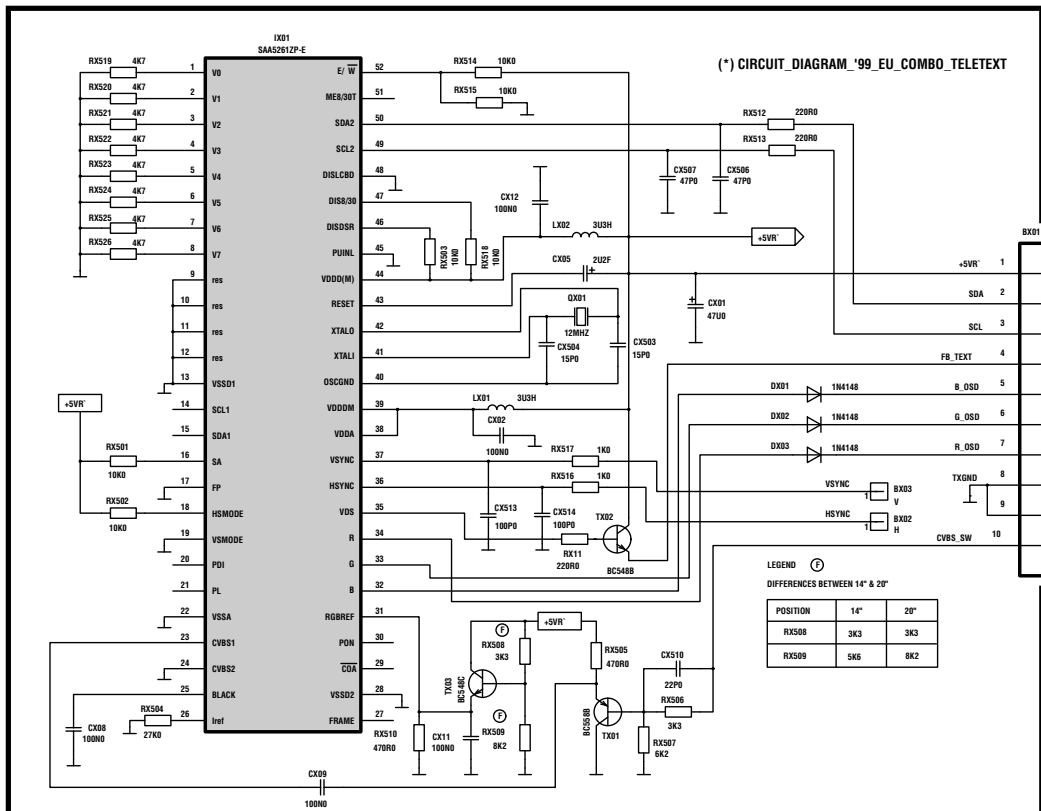
TELETEXT SAA5281



TELETEXT STV5348D

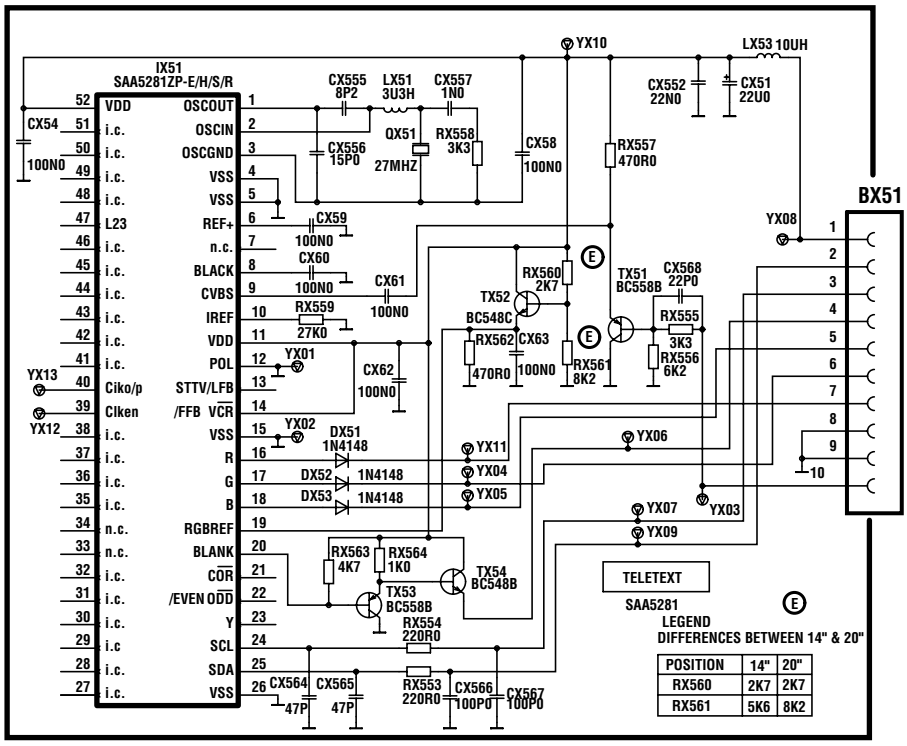


TELETEXT SAA5261

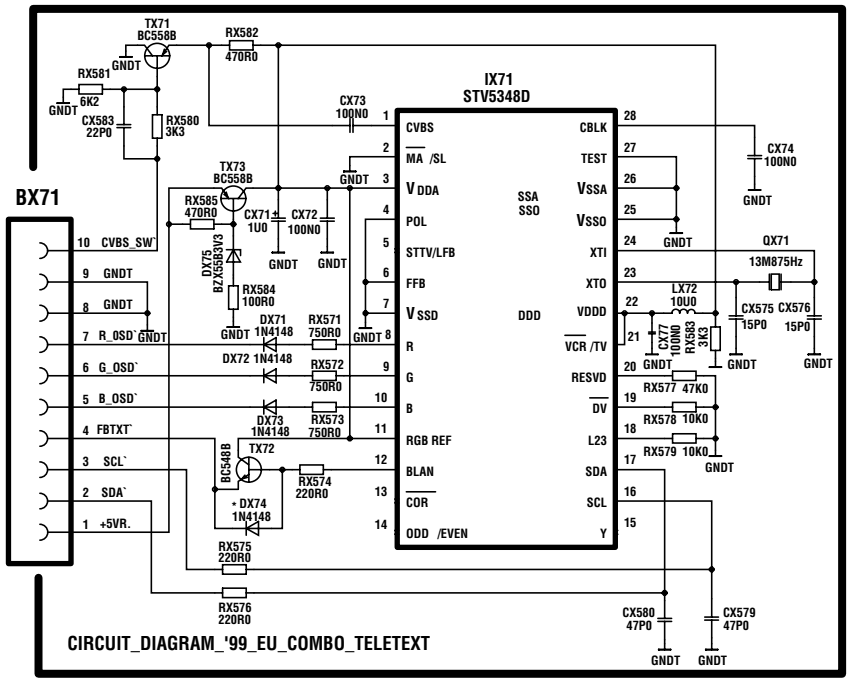


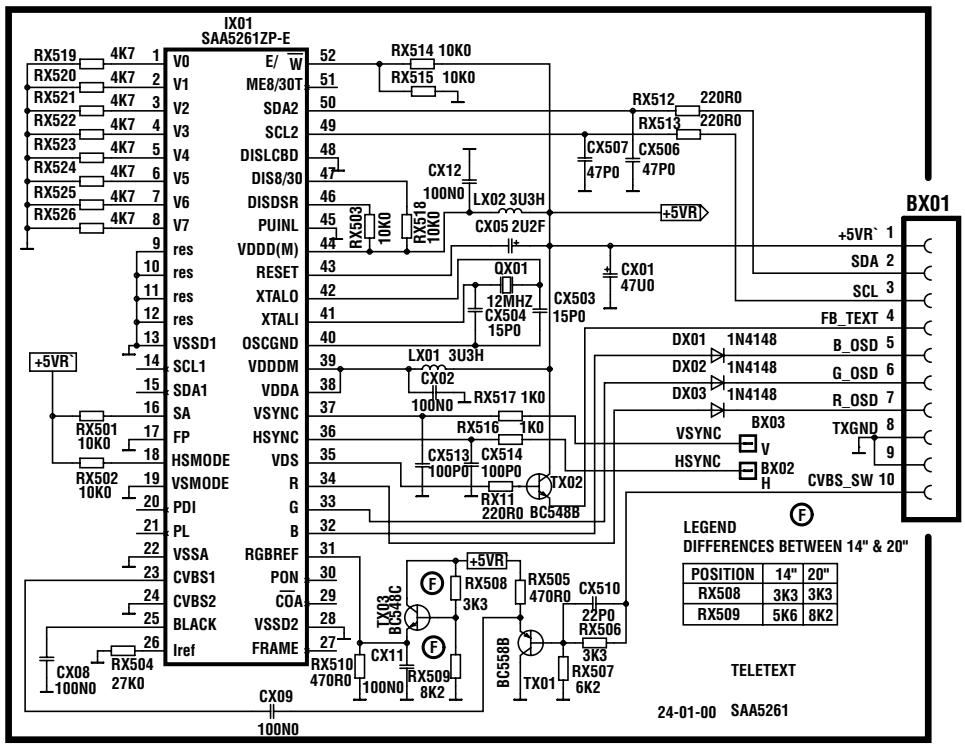
TELETEXT MODULE - MODULE TELETEXTE - VIDEOTEXT MODUL - MODULO TELEVIDEO - MÓDULO TELETEXTO

TELETEXT SAA5281

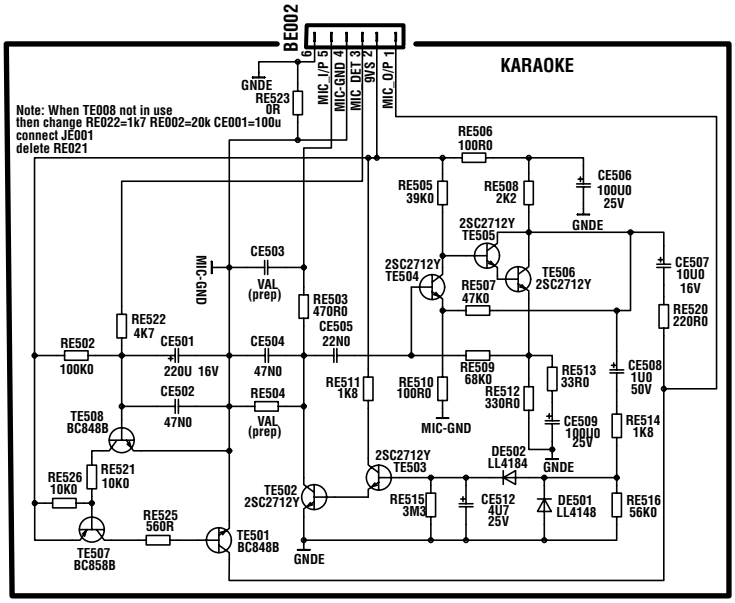


TELETEXT STV5348D

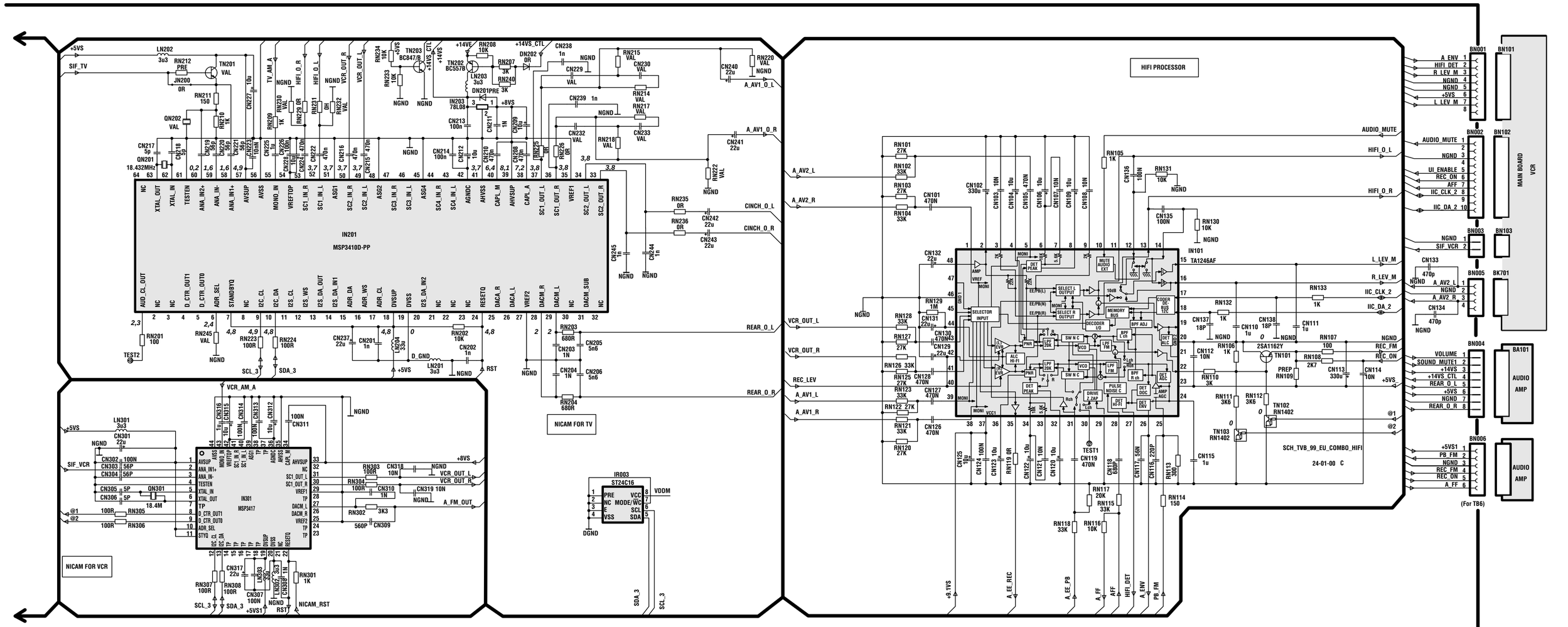




KARAOKE MODULE - MODULE KARAOKE - KARAOKE MODUL
MODULO KARAOKE - MÓDULO KARAOKE



AUDIO SIGNAL PROCESSING - TRAITEMENT AUDIO - AUDIO SIGNALVERARBEITUNG - ELABORAZIONE AUDIO - TRATAMIENTO AUDIO



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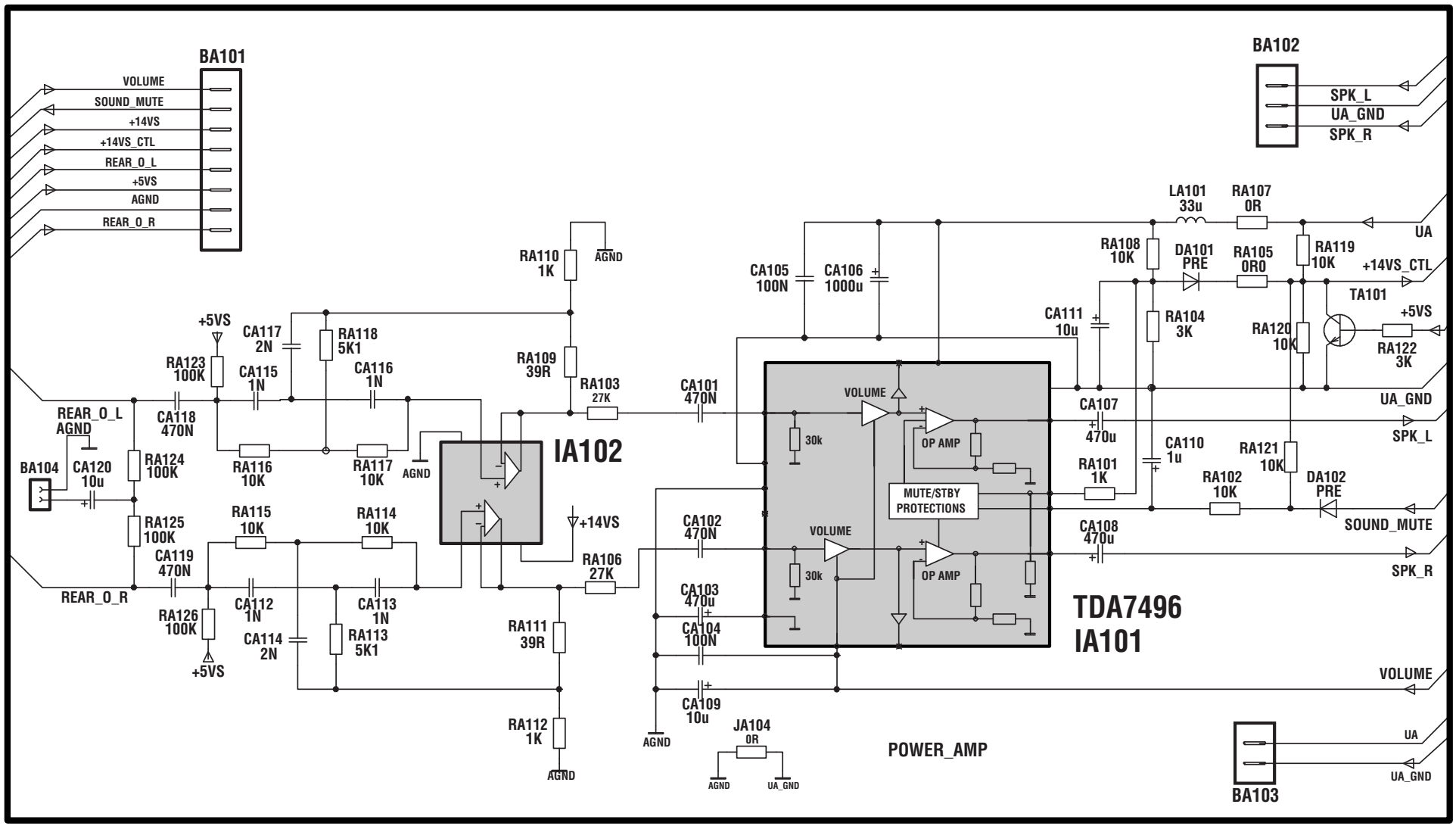
AUDIO AMPLIFIER SCHEMATIC DIAGRAM - SCHEMA AMPLIFICATEUR AUDIO - SCHALTBILD VERSTÄRKERSCHALTUNG
SCHALTBILD VERSTÄRKERSCHALTUNG - SCHEMA AMPLIFICATORE AUDIO - ESQUEMA AMPLIFICADOR AUDIO



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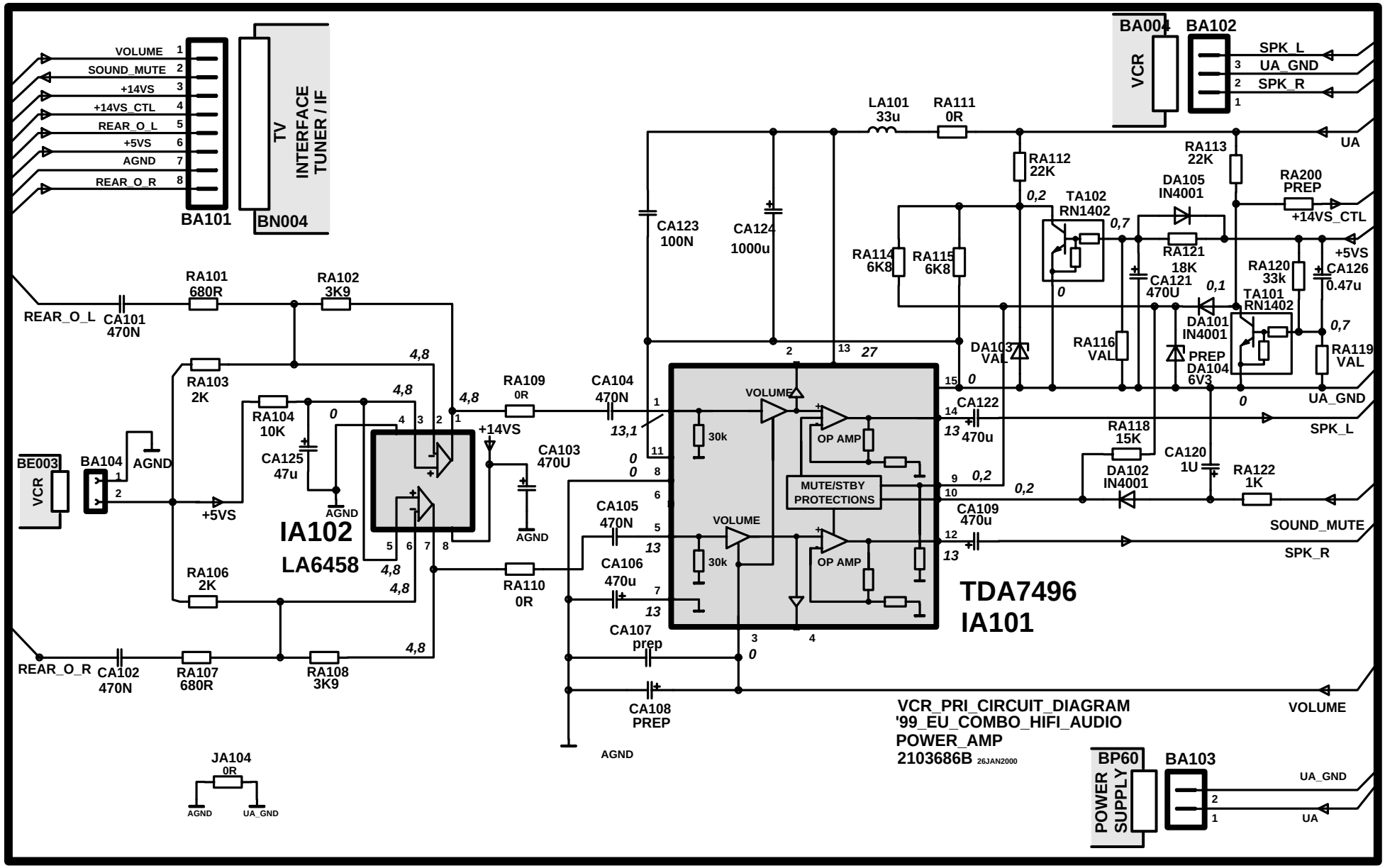
AUDIO AMPLIFIER SCHEMATIC DIAGRAM - SCHEMA AMPLIFICATEUR AUDIO - SCHALTBILD VERSTÄRKERSCHALTUNG
SCHALTBILD VERSTÄRKERSCHALTUNG - SCHEMA AMPLIFICATORE AUDIO - ESQUEMA AMPLIFICADOR AUDIO



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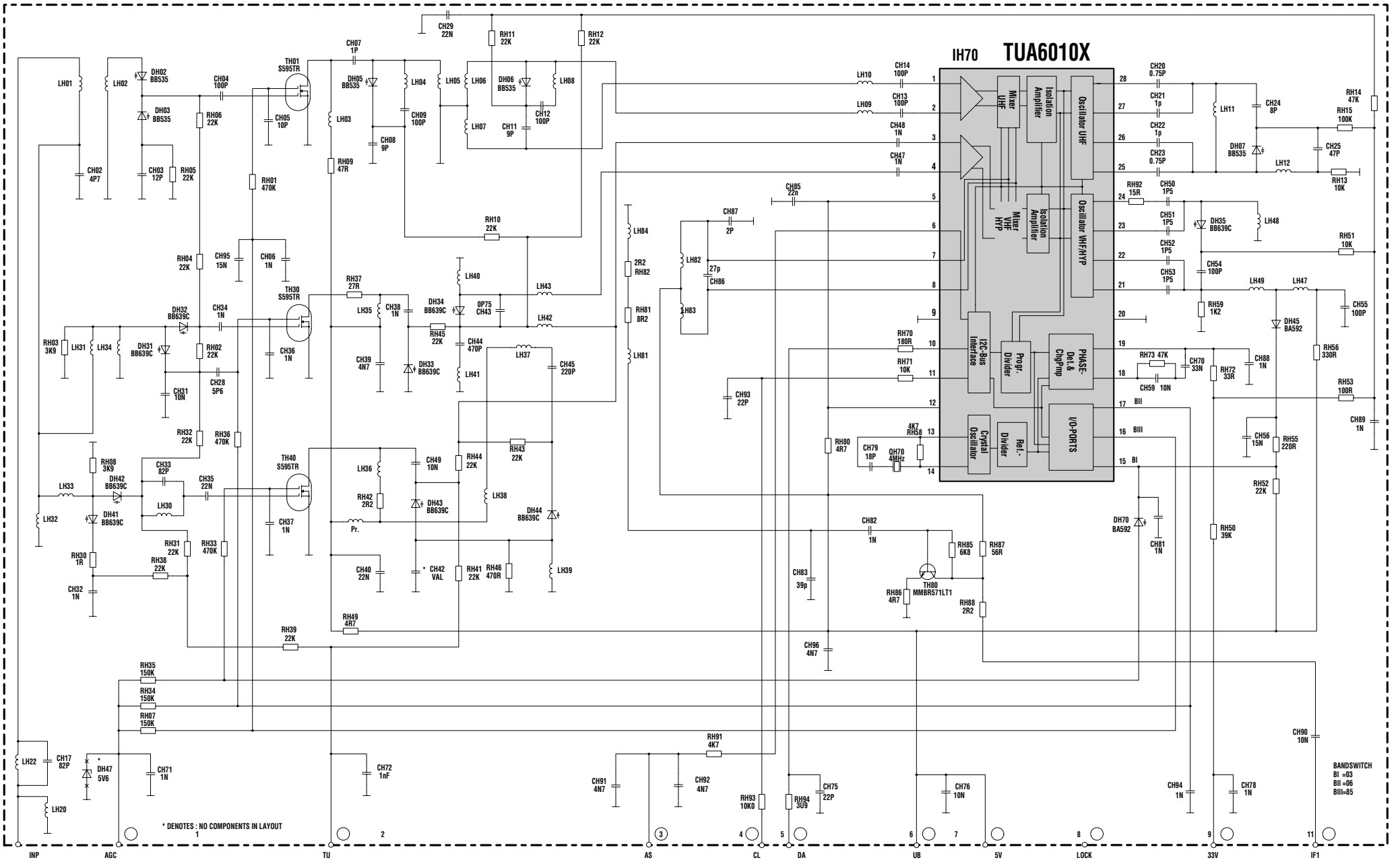
TUNER (For information only)



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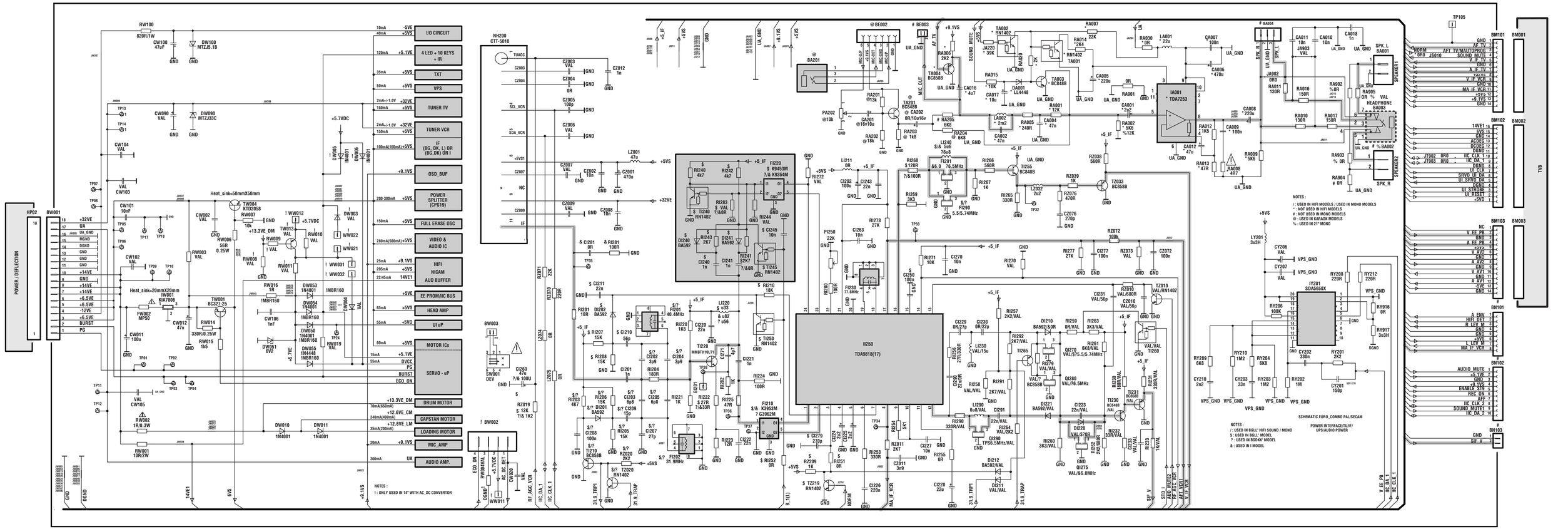
I/O CIRCUIT
4 LED + 10 KEYS + IR
TXT
VPS
TUNER TV
TUNER VCR
IF (BG, DK, L) OR (BG,DK) OR I
OSD_BUF
POWER SPLITTER (CP519)
FULL ERASE OSC
VIDEO & AUDIO IC
HIFI NICAM AUD BUFFER
EE PROM/IIC BUS
HEAD AMP
UI uP
MOTOR ICs
SERVO - uP
DRUM MOTOR
CAPSTAN MOTOR
LOADING MOTOR
MIC_AMP
AUDIO AMP.
POWER / DEFLECTION
NH200 CTT-5010
II250 TDA9818(17)
SCHEMATIC EURO_COMBO PAL/SECAM
POWER INTERFACE/TILIF/ UPS/AUDIO POWER
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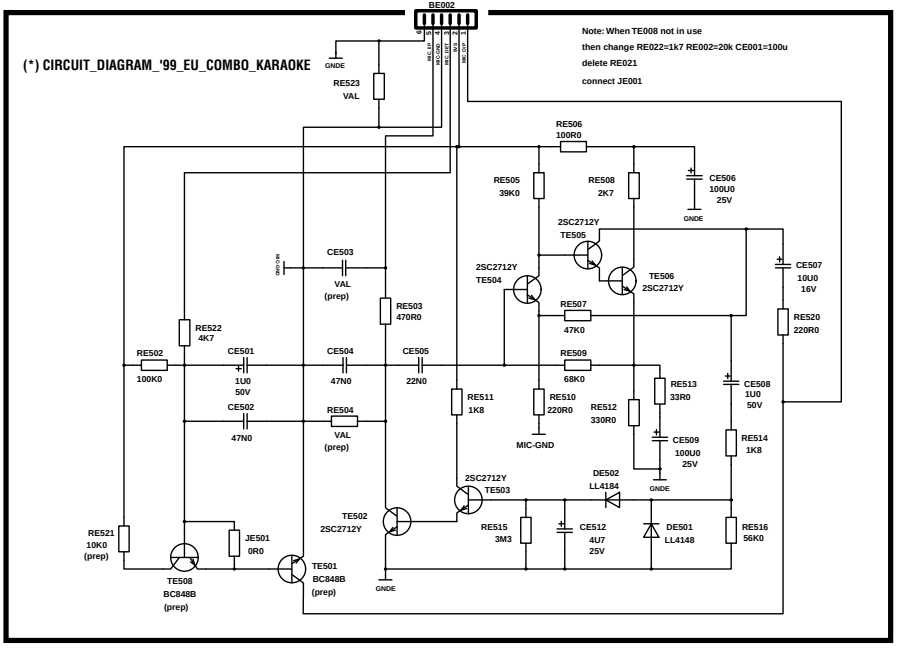
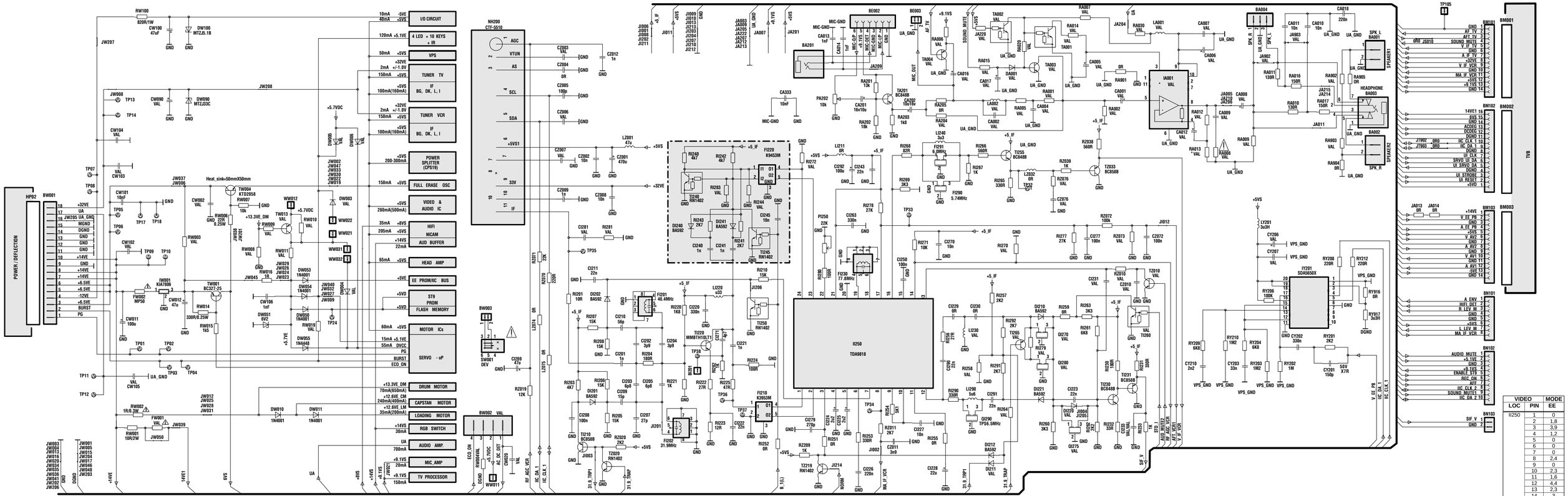
KARAOKE MODULE - MODULE KARAOKE - KARAOKE MODUL
MODULO KARAOKE - MÓDULO KARAOKE





VIDEO LOC	PIN	MODE EE
II250	1	0
	2	1,8
	3	3,9
	4	1,2
	5	0
	6	0
	7	0
	8	2,4
	9	0
	10	2,3
	11	1,6
	12	4,4
	13	2,3
	14	3
	15	2,7
	16	0,1
	17	2,4
	18	2,1
	19	2,2
	20	2,4
	21	2,4
	22	4,8
	23	3
	24	3

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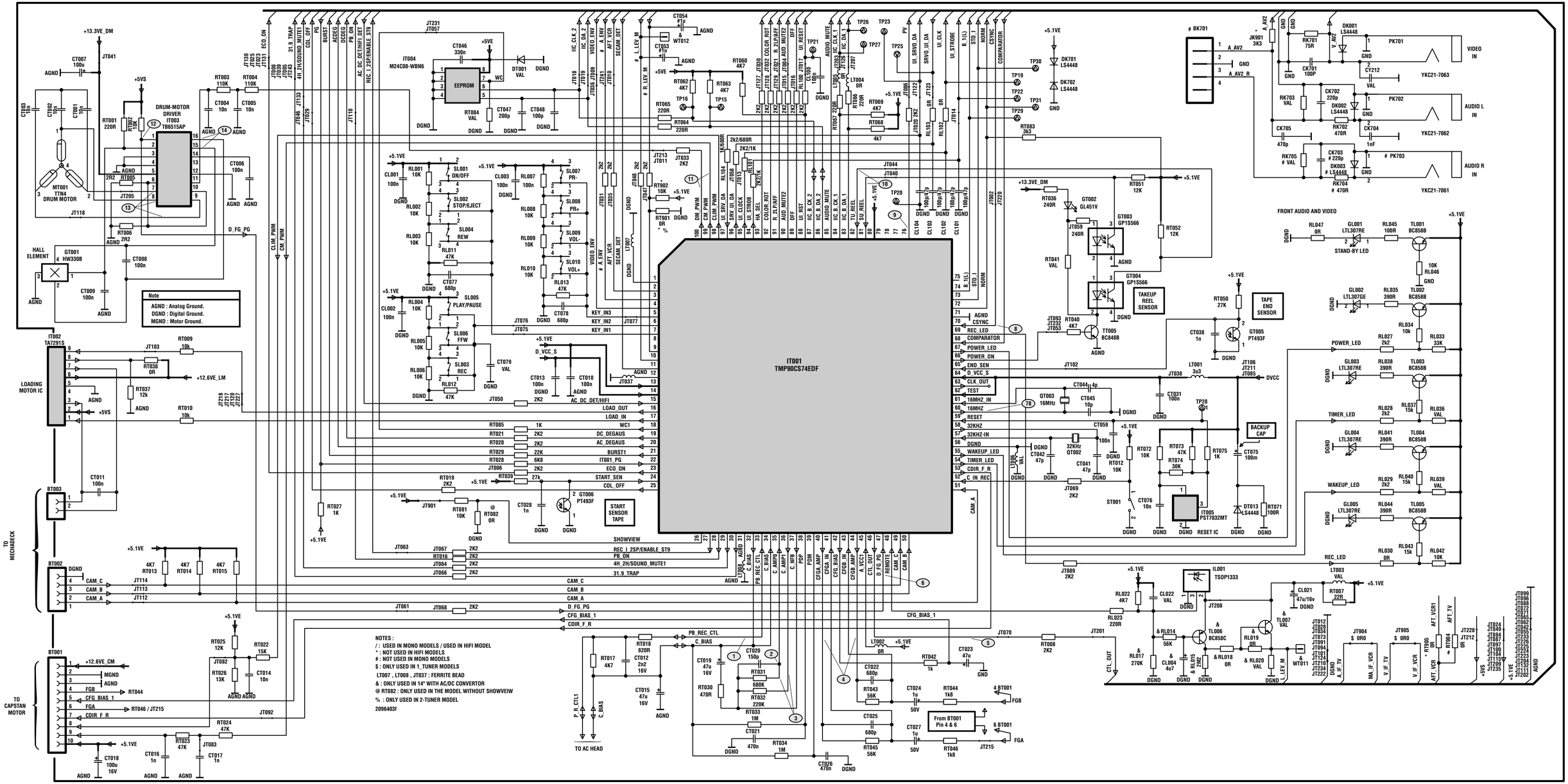
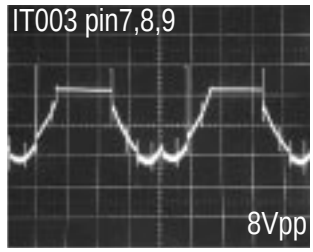
MECHA DECK CONTROL / SERVO CONTROL - GESTION / ASSERVISSEMENTS - MECKHANIKSTEUERUNG / SERVO - SERVO CONTROLLO MECCANISMO / ASSERVIMENTI - SERVOMECANISMO / GESTION



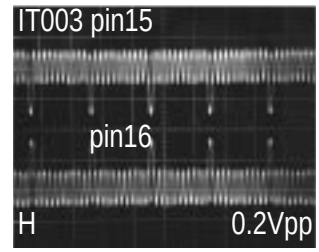
MEASUREMENTS MECHA DECK CONTROL / SERVO CONTROL - MESURES GESTION / ASSERVISSEMENTS - MESSUNGEN MECHANIKSTEUERUNG / SERVO - MISURE CONTROLLO MECCANICA/SERVO - MEDIDAS SERVOMECANISMO / GESTIÒN

SERVO		MODE	
LOC	PIN	PLAY	REC.
IT001	1	0	0
	2	4,5	4,5
	3	0,5	0,8
	4	2,7	2,7
	5	0	0
	6	0	0
	7	0	0
	8	0,5	1
	9	5	1
	10	0,7	5
	11	3,5	0
	12	0	0
	13	5	4.9
	14	5	5
	15	0,5	0,7
	16	5	5
	17	5	5
	18	5	5
	19	5	5
	20	0	0
	21	0	0
	22	5	5
	23	0,2	0,2
	24	4.8	4.8
	25	0	4.9
	26	5	4.9
	27	0	0
	28	5	0
	29	0	0
	30	4.9	4,9
	31	0	0
	32	2.5	0
	33	2.5	0
	34	2.5	0
	35	2.5	2.5
	36	2.4	2.4
	37	2.5	2.5
	38	3.8	2.5
	39	1,2	2.3
	40	2.5	2.5
	41	2.5	2.5
	42	0	2.5
	43	2.5	2.4
	44	2,5	2.5
	45	5	5
	46	3	5
	47	1.2	1.2
	48	5	5
	49	0	0
	50	5	5
	51	0	0
	52	5	5
	53	0	0
	54	0	0
	55	5	5
	56	0	0
	57	2	1,9
	58	0	0
	59	-	-
	60	0	2.2
	61	0	-
	62	0	-
	63	0,6	1,3
	64	5	5

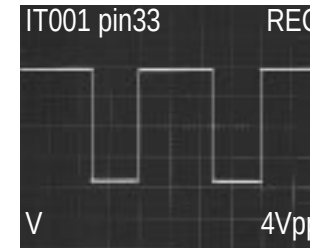
SERVO		MODE	
LOC	PIN	PLAY	REC.
	65	4,8	4,8
	66	4,8	4,8
	67	0	0
	68	0,5	1,3
	69	5	0
	70	3,5	0.6
	71	0	0
	72	0,1	0,1
	73	0	0
	74	0	0
	75	1.3	1.1
	76	0	0
	77	0,6	1,7
	78	2	2
	79	2.2	2.2
	80	5	5
	81	2,4	2,5
	82	2,3	2,6
	83	4	3,7
	84	3,5	3,5
	85	0	0
	86	5,3	5,4
	87	5,4	5,4
	88	5,4	5,4
	89	2.5	2.4
	90	0	0
	91	5	4,9
	92	2.5	2.5
	93	0	0
	94	4.6	4,6
	95	5	5
	96	2.6	2.6
	97	5	5
	98	1.6	0
	99	2.6	2.6
	100	2.9	2.9



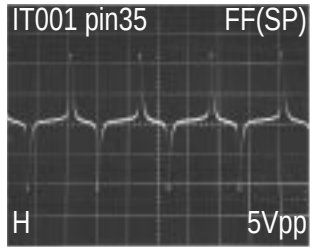
1



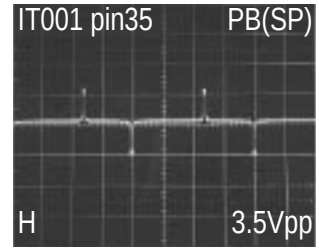
2



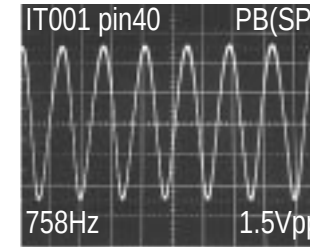
3



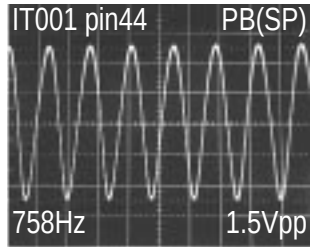
4



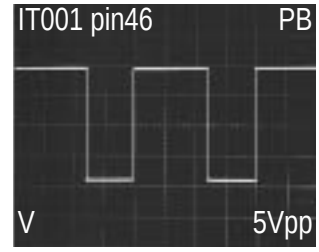
5



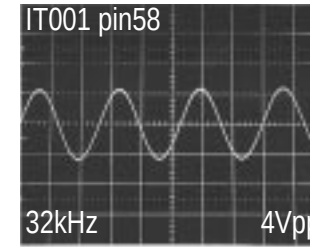
6



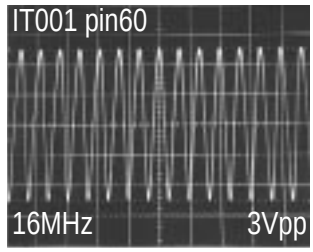
7



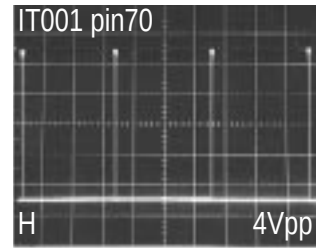
8



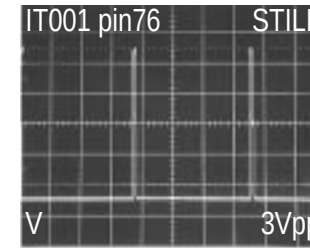
9



10

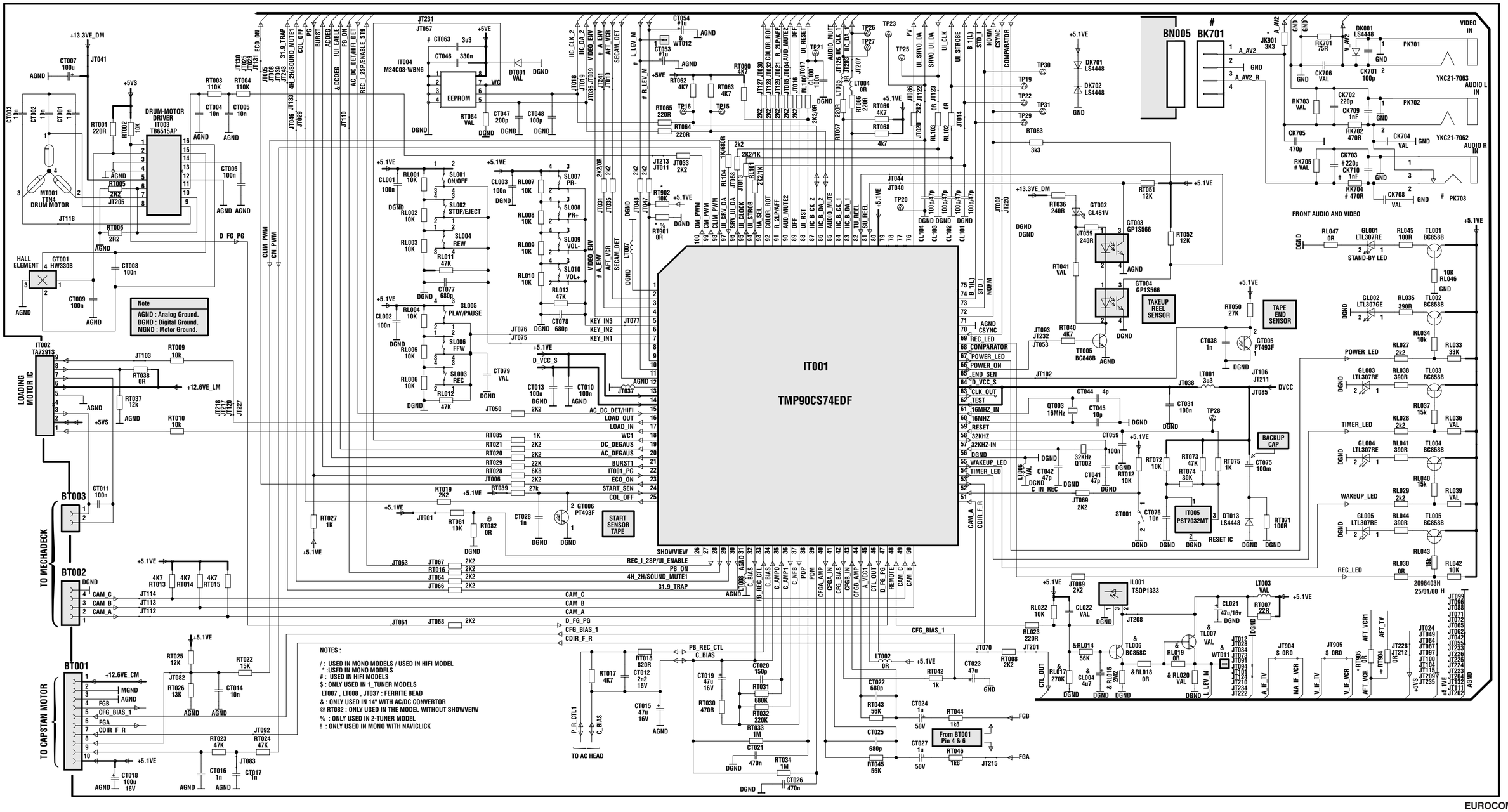


11



12

MECHADEK CONTROL / SERVO CONTROL - GESTION / ASSERVISSEMENTS - MECKHANIKSTEUERUNG / SERVO - SERVO CONTROLLO MECCANISMO / ASSERVIMENTI - SERVOMECANISMO / GESTION



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MEASUREMENTS MECHADECK CONTROL / SERVO CONTROL -
MESURES GESTION / ASSERVISSEMENTS
MESSUNGEN MECHANIKSTEUERUNG / SERVO
MISURE CONTROLLO MECCANICA/SERVO
MEDIDAS SERVOMECANISMO / GESTIÒN

SERVO		MODE	
LOC	PIN	PLAY	REC.
IT001	1	0	0
	2	4,5	4,5
	3	0,5	0,8
	4	2,7	2,7
	5	0	0
	6	0	0
	7	0	0
	8	0,5	1
	9	5	1
	10	0,7	5
	11	3,5	0
	12	0	0
	13	5	4.9
	14	5	5
	15	0,5	0,7
	16	5	5
	17	5	5
	18	5	5
	19	5	5
	20	0	0
	21	0	0
	22	5	5
	23	0,2	0,2
	24	4.8	4.8
	25	0	4.9
	26	5	4.9
	27	0	0
	28	5	0
	29	0	0
	30	4.9	4,9
	31	0	0
	32	2.5	0
	33	2.5	0
	34	2.5	0
	35	2.5	2.5
	36	2.4	2.4
	37	2.5	2.5
	38	3.8	2.5
	39	1,2	2.3
	40	2.5	2.5
	41	2.5	2.5
	42	0	2.5
	43	2.5	2.4
	44	2,5	2.5
	45	5	5
	46	3	5
	47	1.2	1.2
	48	5	5
	49	0	0
	50	5	5
	51	0	0
	52	5	5
	53	0	0
	54	0	0
	55	5	5
	56	0	0
	57	2	1,9
	58	0	0
	59	-	-
	60	0	2.2
	61	0	-
	62	0	-
	63	0,6	1,3
	64	5	5

SERVO		MODE	
LOC	PIN	PLAY	REC.
	65	4,8	4,8
	66	4,8	4,8
	67	0	0
	68	0,5	1,3
	69	5	0
	70	3,5	0.6
	71	0	0
	72	0,1	0,1
	73	0	0
	74	0	0
	75	1.3	1.1
	76	0	0
	77	0,6	1,7
	78	2	2
	79	2.2	2.2
	80	5	5
	81	2,4	2,5
	82	2,3	2,6
	83	4	3,7
	84	3,5	3,5
	85	0	0
	86	5,3	5,4
	87	5,4	5,4
	88	5,4	5,4
	89	2.5	2.4
	90	0	0
	91	5	4,9
	92	2.5	2.5
	93	0	0
	94	4.6	4,6
	95	5	5
	96	2.6	2.6
	97	5	5
	98	1.6	0
	99	2.6	2.6
	100	2.9	2.9

POWER SUPPLY / SCANNING - ALIMENTATION / BALAYAGE - NETZTEIL / ABLENKUNG - ALIMENTAZIONE / SCANSIONE - ALIMENTACIÓN / BARRIDO

Note :
During measurements in the power supply unit
- Use the primary power unit ground (PGND).

Attention :
Mesure dans le bloc alimentation
- Utiliser la masse du bloc alimentation (PGND).

Achtung :
Bei Messungen im Primärnetzteil
- Primärnetzteilmasse verwenden (PGND).

Attenzione :
misure nell'alimentatore primario
- usare massa alimentazione primario (PGND).

Cuidado :
Medida en el bloque de alimentacion
- Utilizar la masa del bloque de alimentacion (PGND).

Part of board connected to mains supply.
Partie du châssis reliée au secteur.
Primärseite des Netzteils.
Parte dello châssis collegata alla rete.
Parte del chasis conectada a la red.

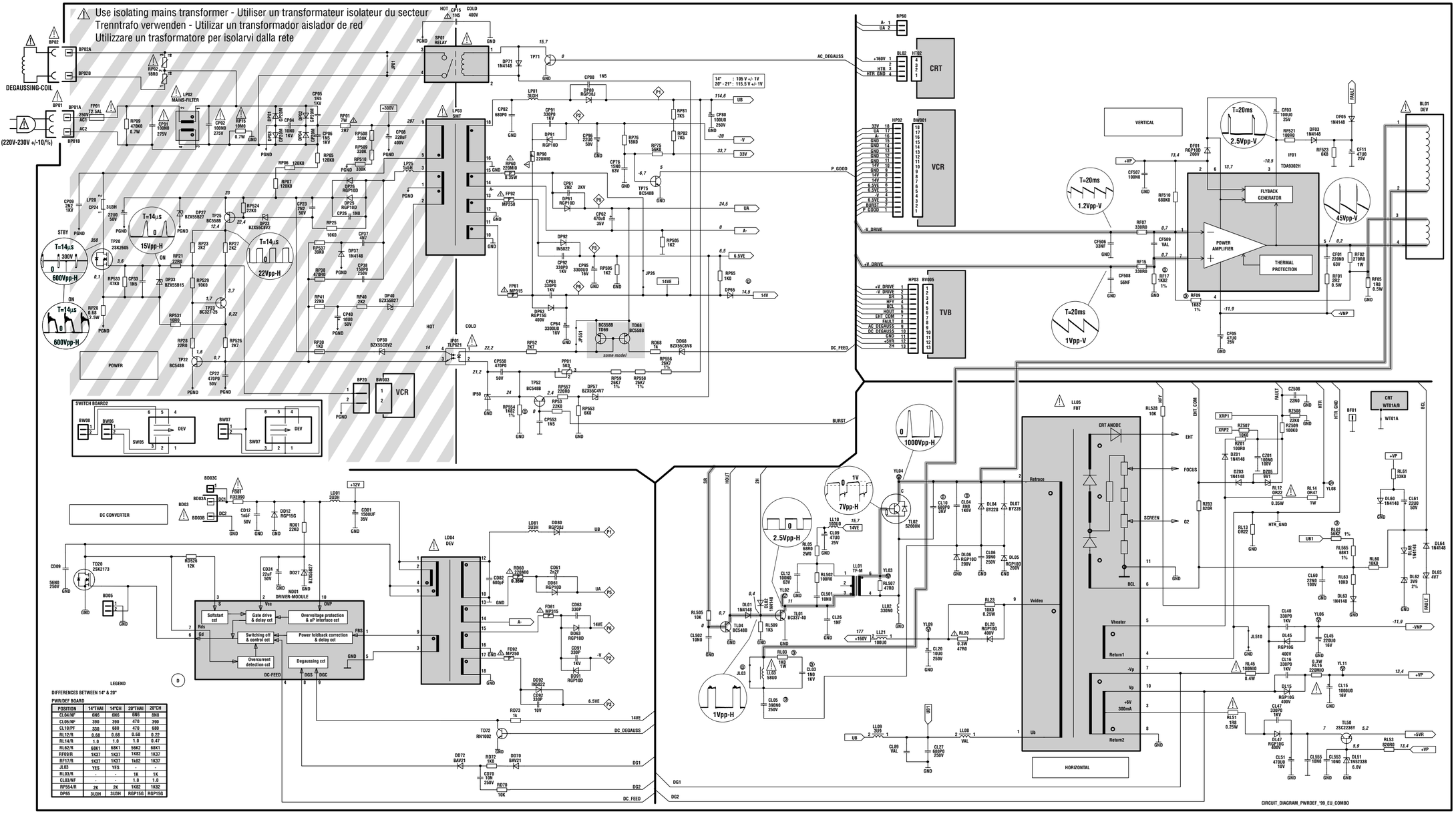
⚠ Indicates critical safety components, and identical components should be used for replacement. Only then can the operational safety be garanteed.

Le remplacement des éléments de sécurité (repérés avec le symbole ⚠) par des composants non homologués selon la Norme CEI 65 entraine la non-conformité de l'appareil. Dans ce cas, la responsabilité du fabricant n'est plus engagée.

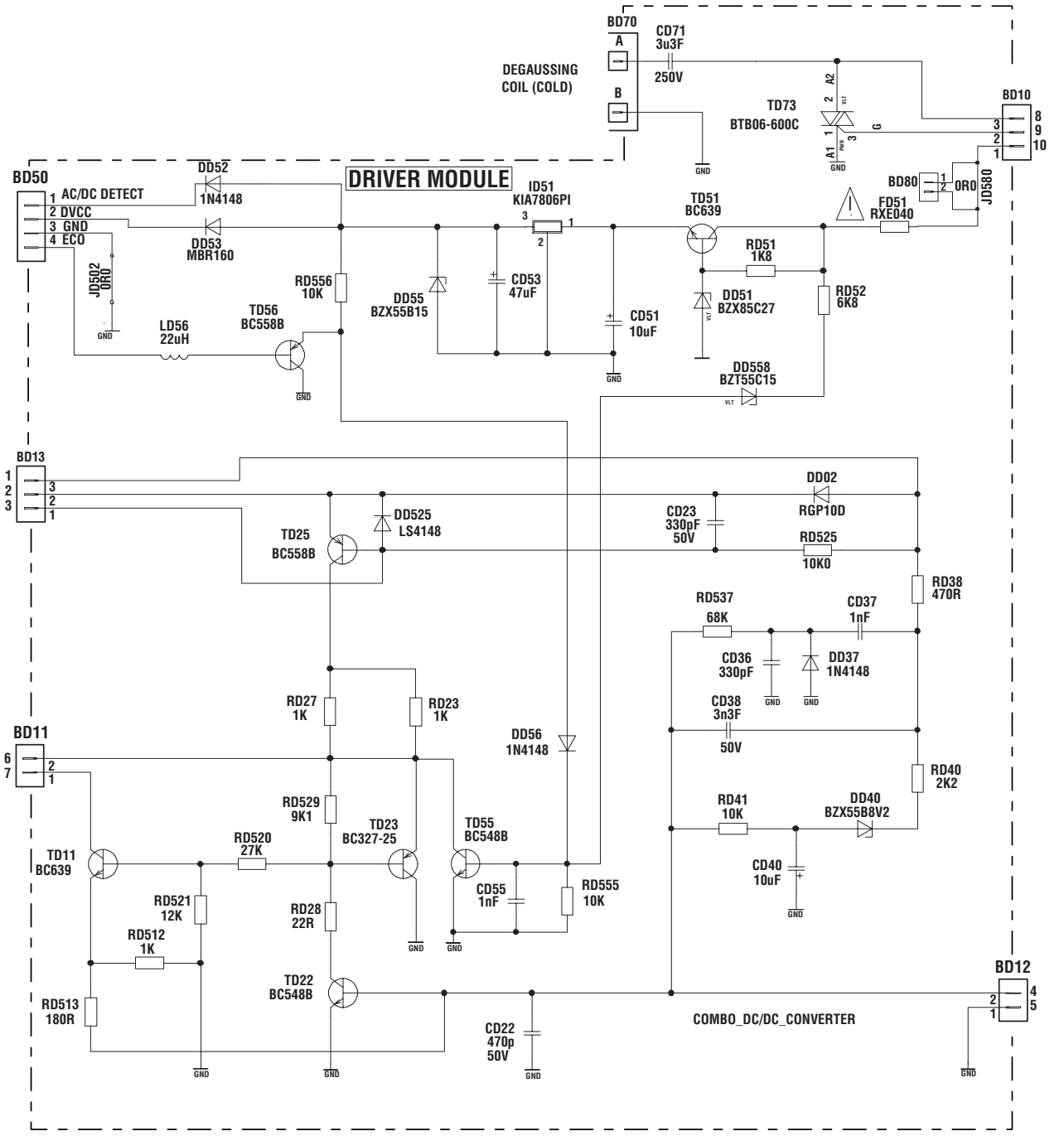
Wenn Sicherheitsteile (mit dem Symbol ⚠ gekennzeichnet) durch nicht normgerechte Teile ersetzt werden, erlischt die Haftung des Herstellers.

La sostituzione degli elementi di sicurezza (contrassegnati con il segno ⚠) con componenti non omologati secondo la norma CEI 65 comporta la non conformità dell'apparecchio.In tal caso é "esclusa la responsabilità" del costruttore.

La subtitución de elementos de seguridad (marcados con el simbolo ⚠) por componentes no homologados segun la norma CEI 65, provoca la no conformidad del aparato.En ese caso, el fabricante cesa de ser responsable.



POSITION	14"THAI	14"CH	20"THAI	20"CH
CL04/NF	6N8	6N8	6N8	8N8
CL05/NF	390	390	470	390
CL10/P/E	330	680	470	680
RL12/R	0.68	0.68	0.68	0.22
RL14/R	1.0	1.0	1.0	0.47
RL62/R	68K1	68K1	56K2	68K1
RF69/R	1K37	1K37	1K82	1K37
RF17/R	1K37	1K37	1k82	1K37
JL03	YES	YES	-	-
RL03/R	-	-	1K	1K
CL03/NF	-	-	1.0	1.0
RP554/R	2K	2K	1K82	1K82
DP65	3U3H	3U3H	RGP15G	RGP15G


DRIVER MODULE
BD70
A
B
CD71
3u3F
250V
DEGAUSSING
COIL (COLD)
TD73
BTB06-600C
BD10
BD50
1 AC/DC DETECT
2 DVCC
3 GND
4 ECO
DD52
1N4148
DD53
MBR160
ID51
KIA7806PI
TD51
BC639
FD51
RXE040
BD80
0R0
JD580
JD502
0R0
RD556
10K
LD56
22uH
TD56
BC558B
DD55
BZX55B15
CD53
47uF
CD51
10uF
RD51
1K8
DD51
BZX85C27
RD52
6K8
DD558
BZT55C15
BD13
DD525
LS4148
TD25
BC558B
DD02
RGP10D
CD23
330pF
50V
RD525
10K0
RD38
470R
RD537
68K
CD37
1nF
CD36
330pF
DD37
1N4148
CD38
3n3F
50V
RD40
2K2
RD41
10K
DD40
BZX55B8V2
CD40
10uF
BD11
RD27
1K
RD23
1K
DD56
1N4148
RD529
9K1
TD23
BC327-25
TD55
BC548B
RD520
27K
TD11
BC639
RD521
12K
RD512
1K
RD28
22R
CD55
1nF
RD555
10K
TD22
BC548B
RD513
180R
CD22
470p
50V
COMBO_DC/DC_CONVERTER
BD12
GND

POWER SUPPLY / SCANNING - ALIMENTATION / BALAYAGE - NETZTEIL / ABLENKUNG - ALIMENTAZIONE / SCANSIONE - ALIMENTACIÓN / BARRIDO

Note :
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- Use the primary power unit ground (PGND).

Attention :
Mesure dans le bloc alimentation
- Utiliser la masse du bloc alimentation (PGND).

Achtung :
Bei Messungen im Primärnetzteil
- Primärnetzteilmasse verwenden (PGND).

Attenzione :
misure nell'alimentatore primario
- usare massa alimentazione primario (PGND).

Cuidado :
Medida en el bloque de alimentacion
- Utilizar la masa del bloque de alimentacion (PGND).

Part of board connected to mains supply.
Partie du châssis reliée au secteur.
Primärseite des Netzteils.
Parte dello châssis collegata alla rete.
Parte del chasis conectada a la red.

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Le remplacement des éléments de sécurité (repérés avec le symbole ⚠) par des composants non homologués selon la Norme CEI 65 entraine la non-conformité de l'appareil. Dans ce cas, la responsabilité du fabricant n'est plus engagée.

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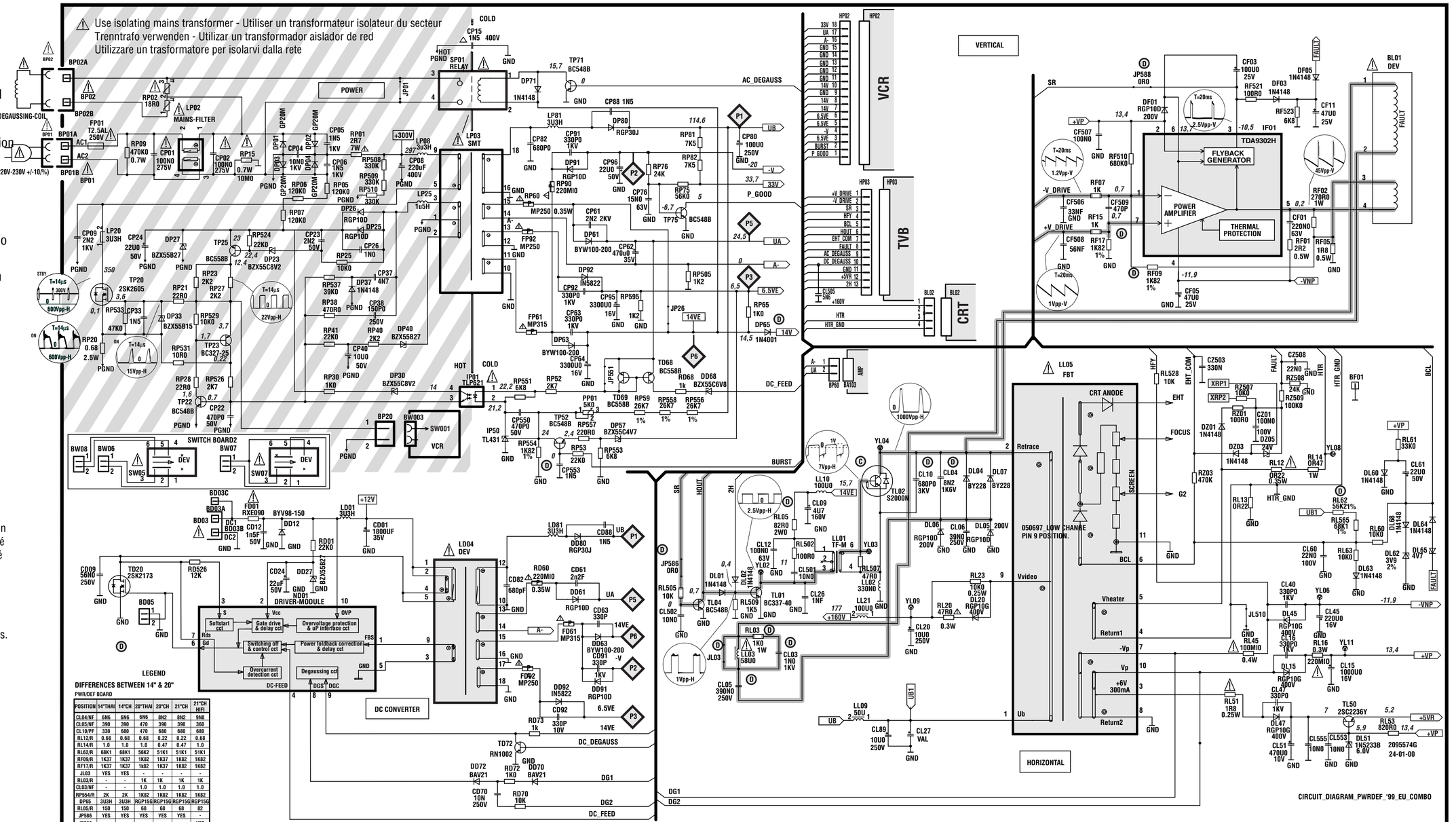
La subtitución de elementos de seguridad (marcados con el simbolo ⚠) por componentes no homologados segun la norma CEI 65, provoca la no conformidad del aparato.En ese caso, el fabricante cesa de ser responsable.



POSITION	14"/HA	14"/CH	20"/HA	20"/CH	21"/CH	21"/CH HIFI
CL04/NF	6N6	6N6	6N6	8N2	8N2	9N8
CL85/NF	390	390	470	390	390	360
CL10/PF	330	680	470	680	680	680
RL12/R	0.68	0.68	0.68	0.22	0.22	0.68
RL14/R	1.0	1.0	1.0	0.47	0.47	1.0
RL62/R	68K1	68K1	56K2	51K1	51K1	51K1
RF09/R	1K37	1K37	1K82	1K37	1K82	1K82
RF17/R	1K37	1K37	1k82	1K37	1K82	1K82
JL03	YES	YES	-	-	-	-
RL03/R	-	-	1K	1K	1K	1K
CL03/NF	-	-	1.0	1.0	1.0	1.0
RP554/R	2K	2K	1K82	1K82	1K82	1K82
DP65	3US1	3US1	RGP15G	RGP15G	RGP15G	RGP15G
RL05/R	150	150	68	68	68	82
JP586	YES	YES	YES	YES	YES	-
JP588	-	-	-	-	-	YES

EUROCOMBO 2
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